

# THE MEDICAL AND SURGICAL REPORTER.

No. 1964.

OCTOBER 20, 1894.

VOL. LXXI—No. 16

## ORIGINAL ARTICLES.

OLIVER WENDELL HOLMES, PHYSICIAN.

A. L. BENEDICT, A.M., M.D., BUFFALO, N. Y.

It is not often that a member of our profession attains more than local eminence; still less frequently does a physician achieve immortality in literary or scientific pursuits without forfeiting his allegiance to the medical profession. In recalling the life of Oliver Wendell Holmes, it is not enough to say that he once studied medicine, that he was a doctor before he was a poet and an essayist. The best of his life is identified with medical teaching and medical practice. Even after retiring from the active pursuit of his calling he was none the less a doctor, none the less the professional brother of every honorable physician. He is the eloquent orator, the brilliant essayist, the quaint satirist, the kindly poet, not *from* but *of* the medical profession.

As a poet, he was one of a group of five or six bards of second rank who wrote no epic masterpieces and who fell short of the inspiration of Shakespeare, but who appeal to heart and soul as the few greater poets never have and never can. Longfellow, Bryant, Whittier, Lowell, Holmes, represent an era of American development. For many years contemporaries, each in his own style, yet all bearing the common imprint of the aspirations and energy of the New World, they have vindicated the charge that America had only the possibilities of materialistic advancement.

Few poets have been more optimistic

than Holmes, few have appealed so generally to the sympathies of all classes. His jollity never descended to the comic, his humor has almost always a tinge of pathos, yet his sadness is never somber.

Every college man—even graduates from professional schools may be included—feels his heart grow warmer and his memory of class and fraternity bonds grow brighter as he reads Holmes' poems addressed to the "boys." The physician appreciates the satire and learns a useful lesson from the "Stethoscope Song" and "Rip Van Winkle, M.D." Holmes might be called the poet of commemorative exercises, so many of his happiest strains having been prepared for anniversaries of historic events, for college commencements and reunions, for society meetings and banquets.

Many of Holmes' essays are classics of medical literature. The sound logic and entertaining satire of "Homœopathy and Its Kindred Delusions," the almost paternal kindness and practical wisdom of his "Address to the Young Practitioner" and of similar addresses to students are well worth reading and rereading. His address on "Scholastic and Bedside Teaching," delivered in 1867, anticipated by a generation the recent beginnings of a reform in clinical instruction. In this and other papers he urges the superiority of practical instruction and of actual relief of

human suffering over purely scientific methods; yet in the "Mechanism of Vital Action" and the "Mechanism of Thought and Morals" we have a glimpse of his firm grasp of philosophic principles. In the "Position and Prospects of the Medical Student" his humanity and chivalry burst forth in an eloquent protest against the brutal disregard of the feelings of the patient by a certain grade of students and surgeons and an appeal for the respect due the modesty of the humblest woman.

If Dr. Holmes had never visited a patient, never delivered an anatomical lecture, never attended a medical meeting, his claim to fellowship in the profession and the claim of the profession upon his genius would be insured by his pioneer work in regard to the etiology and prophylaxis of puerperal fever. He proved its contagiousness; he traced the infection from patient to patient, carried by midwife or physician from post mortem or dissecting-room to the lying-in chamber. After more than half a century we can add only the conception of puerperal fever as essentially a septicæmia or pyæmia and the value of chemical antiseptics.

There is a characteristic grim humor in the words in which Dr. Holmes fixes the blame of puerperal fever upon the careless physician or midwife: "It appears a singular coincidence that one man or woman should have ten, twenty or thirty cases of this rare disease following his or her footsteps with the keenness of a beagle through the streets and lanes of a crowded city, while the scores that follow the same paths on the same errands knew it only by name. . . . It is the practical inattention to similar coincidences which has given rise to the unpleasant, but often necessary, documents called indictments, which has sharpened a form of the cephalotome sometimes employed in the case of adults and adjusted that modification of the fillet which delivers the world of those who happen to be too much in the way while such striking coincidences are taking place."

It is also significant that while the bacterial etiology of the fever was not recognized, Dr. Holmes asserts in most unequivocal terms the existence of a material contagion and notes the causative relation of erysipelas: "Within the walls of lying-in hospitals there is often generated a miasm, palpable as the chlorine used to

destroy it." Summing up several detailed reports, he says: "The evidence appears to me altogether satisfactory that some most fatal series of puerperal fever have been produced by an infection originating in the matter or effluvia of erysipelas." He concludes a most earnest plea for conscientious observance of precautions against communicating the disease with these words: "God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly or selfishly."

The rules laid down by Dr. Holmes for practical guidance of the obstetrician will bear requoteing:

"1. A physician holding himself in readiness to attend cases of midwifery should never take any active part in the post-mortem examination of cases of puerperal fever.

"2. If a physician is present at such autopsies, he should use thorough ablation, change every article of dress and allow twenty-four hours or more to elapse before attending to any case of midwifery. It may be well to extend the same caution to cases of simple peritonitis. [It is altogether likely that *simple* here means non-*puerperal* rather than non-septic.]

"3. Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas, if the physician is obliged to unite such offices with his obstetrical duties, which is in the highest degree inexpedient.

"4. On the occurrence of a single case of puerperal fever in his practice, the physician is bound to consider the next female he attends in labor, unless some weeks at least have elapsed, as in danger of being infected by him, and it is his duty to take every precaution to diminish her risk of disease and death.

"5. If within a short period two cases of puerperal fever happen close to each other, in the practice of the same physician, the disease not existing or prevailing in the neighborhood, he would do wisely to relinquish his obstetrical practice for at least one month, and endeavor to free himself by every available means from any noxious influence he may carry about with him.

"6. The occurrence of three or more closely connected cases in the practice of one individual, no others existing in the

neighborhood and no other sufficient cause being alleged for the coincidence, is *prima facie* evidence that he is the vehicle of contagion.

"7. It is the duty of the physician to take every precaution that the disease shall not be introduced by nurses or other assistants, by making proper inquiries concerning them and giving timely warning of every suspected source of danger.

"8. Whatever indulgence may be granted to those who have heretofore been the ignorant causes of so much misery, the time has come when the existence of a *private pestilence* in the sphere of a single physician should be looked upon, not as a misfortune, but as a crime; and in the

knowledge of such occurrences, the duties of the practitioner to his profession should give way to his paramount obligations to society."

We are tempted to quote from each of the essays mentioned. The difficulty is not to find a passage brilliant enough to be taken from its context, but to select those which might be spared.

A peaceful death, without the pain of sickness, with only the gentle warning of old age, has finished a life of honor to his profession, of service to his country, of gratification to the thousands who have read his poems and essays and realized that they were happier and better from having come within touch of his benevolence and sympathy.

# A CASE OF COMPOUND COMMUNUTED FRACTURE OF THE SKULL WITH LACERATION OF THE MEMBRANES AND LOSS OF BRAIN SUBSTANCE.

J. B. CRANDALL, M.D., STERLING, ILL.

Edward Heady, single, aged 25, American, a farm laborer, was injured July 19, 1894. I was called by wire to the place of accident, some twenty miles southwest of Sterling, to see the case in consultation with Dr. A. C. Smith, of Tampico, Ill.

The nature of the accident to our patient, which occurred at about 6 o'clock P.M., was from some entanglement of the rope which was attached to the hay fork. While the line was in extreme tension while in the act of hoisting hay with the ordinary horse-power, it snapped asunder, the eye of the cast-iron pulley striking with great force the right side of the head, crushing in bones, membranes, and badly lacerating and pulverizing brain substance. The accident happened some five or six hours prior to my arrival. Dr. S. was present soon after the accident and had the hemorrhage checked, which was excessive upon his arrival. He also rallied him from the shock by the use of subcutaneous injections of spts. vini gallici. The conveniences for an operation and the light were poor.

We immediately put him under the in-

fluence of chloroform and gave him the benefit of aseptic dressings. The force of the blow was upon the right parietal bone some  $1\frac{1}{2}$  inches posterior from the middle of the coronal suture and about the same distance from the greatest convexity of the right parietal bone. The opening into the bony vault was some  $1\frac{1}{2}$  inches from anterior to posterior points, while the superior-inferior margins were some  $\frac{1}{2}$  inch less.

There were several pieces of detached bone. The largest was oblong in shape,  $1\frac{1}{2}$  inches by  $\frac{3}{4}$  inch in size. Several smaller pieces were also torn and driven into the brain substance through the membranes.

The dura was badly lacerated from the edge of the anterior central convolution of cerebrum to the interparietal fissure, from which arose extensive hemorrhage that was controlled with iodoform gauze. We also had more or less trouble with superficial arteries of scalp that were retracted so that we had to surround them with a needled ligature.

After elevating and smoothing down the rough edges of the fractured skull

with chisel and bone forceps, we flushed out the wound, removing all of the *débris* of loose brain substance, with hot carbolized water, closed the wound with silk sutures, leaving an opening at the lower border for drainage packed with iodoform gauze.

Before the operation the patient appeared rational so far as intellect was concerned, but his left arm, forearm and hand were useless; and one of the first inquiries when he recovered from chloroform was to know if he could ever regain the use of his hand, as up to this time there had been no improvement in the use of his arm. Patient also complained of an unnatural sensation about the face like a person under the sting of a nettle. In looking for results we see that the areas correlated with facial movements are at the anterior part of the infracentral, while the arm areas are in the middle portions of the anterior and central gyrus. It was impossible to define the boundaries, but it was evident we were very near the line, which was a little anterior to the base of operation. We assured him, not without some doubts unexpressed, that time would eventually restore the use of his arm, and later we were pleased that our prognosis was correct.

After making a nice toilet for the head, the outer dressing being carbolated gauze, we ordered a small powder of pulv. opii. The after-treatment was alternative doses of Hg Cl and pulv. opii for the first ten days. There was paralysis of the bladder and partial paralysis of the bowels for a time. Dr. Smith, who had the after-treatment, told me he used the catheter for a week or more, and that he used injections for the bowels for the same length of time, but that they gradually assumed a normal condition.

He also lost the sense of taste for a time; that came to him after a period of two weeks. Sight and hearing were not affected. Sense of smelling partially lost for a short time.

There was also loss of power of legs as well as loss of power of body; not able to control movements by will power; faulty coördination owing to some disturbance, if not lesion of the cerebellum.

I have not seen the case since the night of injury, but Dr. Smith was kind enough to furnish the facts and all of the interesting features in the case since. At

present, some two months after receipt of injury, our subject is up and able to perform light labor; has the use of all the special senses; also has the control of and is able to use his hand and arm. Not as strong as before accident, but it has been gradually returning to its normal condition for the last four weeks. He can see some improvement in strength each day. The wound in the head is practically healed; has overcome his anemic condition; general health good.

From the outlook at present Mr. Heady will be able to resume his ordinary farm labor in a few weeks.

Much praise is due Dr. Smith for the attention and judicious management in the case and after-treatment.

As the results are all we could ask, so far as surgical aid and medical attendance are able to restore, where all kinds of appliances are within reach and educated nurses are at our every call, I fail to see where we could have improved the conditions of our patient in this case.

I often think I would sooner take my chances with a surgeon with ordinary skill, with pure country air, than with an expert in the city hospital with city surroundings. A surgeon may make cuts, but after all it takes nature to heal them up again.

#### Epistaxis in Children.

M. Verneuil recently read a very interesting communication before the French Academy of Medicine upon the subject of epistaxis in children (*La Loire Médicale*). Prof. Verneuil holds that nose-bleed in children is due, in a large number of cases, to hepatic disturbance of some sort, especially such conditions as are present in the rheumatic diathesis. He remarks as follows:

"The practice has been to stuff these pale, anæmic children with tonics of all sorts, but this treatment, by predisposing to congestions, is diametrically the opposite of the treatment required by these patients. That which is first of all necessary in these cases is the alkalines, a vegetarian regimen, and cold douches over the liver. This treatment, which I employed in the case of a young man of seventeen years, has given excellent results; the hemorrhages have disappeared."



## COMMUNICATIONS.

## TREATMENT OF OPEN OR COMPOUND FRACTURES.\*

HENRY H. MUDD, M.D., St. Louis, Mo.

An open wound communicating with a fractured bone is a serious complication. Every effort is directed to its closure by sound healing. Its importance and the difficulty of its management is determined largely by the amount of injury inflicted upon the soft tissues about the fracture, and by the extent of the comminution of the bone. This open wound is usually determined by the violence which inflicts the fracture, but may result from ulceration. An oblique fracture where the skin has been torn by the sharp angling of the bone, with or without impact against an external object, offers a good opportunity to convert a compound into a simple fracture.

Fractures by direct violence which is not crushing, even if the bone is comminuted, present often good opportunity for the immediate closure of the wound. The soft parts are not necessarily much injured by such a fracture. This is especially true where the bone is superficial.

Extensive lacerations and contusions of the soft parts with a small or a large wound of the skin preclude an effort at immediate closure of the skin wound. They demand drainage. Even in such conditions a compound fracture may occasionally be promptly converted into a simple one by the agglutination of structures contiguous to the fracture, though the skin opening may remain free for drainage.

Absolute cleanliness is the first requisite in an attempt to convert a compound into a simple fracture. A razor, soap and water are essentials, and must be well used in order to cleanse the skin. The purity of the water used in washing the wound is of first importance. The removal of extraneous matter from the wound may be accomplished by a wash of hot water, but where grease, cloth, and dirt of various kinds are adherent to raw surfaces, the fingers, forceps, etherial soap, turpen-

tine, and sublimated washes may fail to accomplish perfect cleanliness, though the wound may be rendered aseptic and heal readily. A fairly perfect adjustment of the fragments is a requisite of early healing. Maintenance of the adjustment by a well-adapted splint which does not provoke engorgement and pain by undue pressure, is a most important item in the treatment. Many compound fractures where the local conditions would permit primary union of the wound, fail to progress favorably on account of the injudicious application of an apparatus which is good in itself but is imperfectly applied.

The external wound may be hermetically sealed by suture and collodion, if it is small and the soft parts are not extensively bruised. Where the skin wound is extensive, that portion of it which overlies the fractured bone should be closed by suture, if a point favorably situated for drainage can be found somewhat removed from immediate contact with the bone.

If the bone is protruding and has been contaminated by clothing, by a dirty skin, or by external objects, it must be thoroughly cleansed by careful picking and sponging, and then washed with an antiseptic solution, in order that aseptic conditions may be obtained. If the protruding fragment is not essential to solid union, the difficulty of cleansing its surface and the doubtful vitality of the long sharp points of bone, which are denuded of periosteum and bruised by violence, justify its removal by bone nippers or saw. In the more extensive injuries, where direct violence has crushed the soft tissues, comminuted the bone, and driven foreign matter into the wound, the cleansing of the parts and the removal of dead tissue will very often require an enlargement of the wound or an incision to give free access to the injured parts. Fascia and muscle if irretrievably damaged must be cut away with the scissors. Loose fragments of bone are to be removed, and a complete knowledge of the extent of the

\* Trans. American Medical Association, Surgical Section, 1894.

injury to the bone and to contiguous parts, including joints, must be obtained. Blood clots should be washed out, and after thorough cleanliness has been obtained, efficient drainage must be provided. The original skin wound may be closed and drainage be secured by special incision, or through an opening made for the inspection and cleansing of the wound. Every effort is to be made to avoid suppuration, as it will destroy still more tissue. It should be remembered that it is difficult to maintain a perfect asepsis about a wound which is slow in healing, hence even where the skin opening can be closed, it is important to so arrange bone and soft tissues as to favor the agglutination of soft tissues about the line of fracture, in order that it may be shut off from the external wound at the earliest possible moment.

Fragments of bone or sharp ends of the fractured surface must not be permitted by malposition to exercise undue pressure upon the soft parts. Angling at site of fracture must be corrected, and if the tendency to shortening is marked and not easily controlled, as it is, not infrequently, where the ankle joint is involved in the fracture, the shortening of the limb by excision of the fractured end is proper and is a conservative measure. The adjustment of the compound and comminuted bone may not be perfect, but it must be practically so good that undue pressure on the soft parts will not induce ulceration, and must be such as to give a good outline and a useful extremity.

Extension and lateral support are the two chief agencies in maintaining apposition of fragments. Wiring of bone and the use of ivory pegs are occasionally necessary and can be used to advantage in isolated cases. They are, however, rarely necessary, and are an obstacle to rapid and solid union, except where they overcome the greater danger of persistent and obstinate displacement.

A solid union will often result without serious constitutional disturbance, even when the fracture remains an open one. The exposed bone will develop granulations, and if a part of it is necrosed, separation by granulation along the line of junction of the dead and living bone will occur, even while new bone is forming at other areas in the line of fracture.

Cleanliness, an easy and comfortable position for the fractured member, free

drainage, and a good constitutional condition will generally insure solid union, though it may be long delayed. Union of bone in a compound fracture is much slower than in simple fractures, or than it is in the compound fractures which are promptly converted into simple ones.

Delayed union should be tolerantly dealt with; a persistent maintenance of the conditions which favor the nutrition of the injured leg will very generally be rewarded by a good recovery.

A thorough appreciation of the extent of the injury to the different structures of the extremity must be obtained in cases where the judgment wavers between an effort to save the limb and an amputation. Amputation should be immediate—that is, it should be promptly enforced as soon as the shock has passed, or postponed until the acute inflammation has subsided. A so-called secondary operation is safer than an immediate one.

The perfected technique of aseptic surgery enables us to save many extremities where suppuration with its attendant damages must have supervened and destroyed the limb before the details of antiseptic and aseptic methods were well understood. No less important is the selection of a splint which permits cleanliness, and at the same time insures rest and the undisturbed position of the fracture, which is so essential to the rapid repair of the soft parts and the union of the broken bone. The suspension splint of Dr. John T. Hodgen, with its extension and free motion, is a most important adjuvant in the treatment of compound fractures of the leg and thigh.

#### Permanganate of Potash in Thrush. *Q*

Drs. Troitski and Karntski (*Gazzetta Degli Ospitali*) regard the permanganate of potash as the most efficacious remedy in the treatment of thrush in children. Besides application of an alkaline solution they also employ the permanganate locally in solution. A 2-4 per cent. solution of the bicarbonate of soda may be employed for alkaline irrigation, or in very grave cases a saturated solution of this substance. Besides this the physician should touch, two or three times a day, the affected spots with the following:

*R* Permanganate of potash.....25 | o (grs. iv.)  
Distilled water.....30 | o (s. j.)

Under the influence of this antiseptic the disease rapidly disappears.—

## ICE-COLD APPLICATIONS IN ACUTE PNEUMONIA.\*

THOMAS J. MAYS, A.M., M.D.,† PHILADELPHIA.

While cold applications in the treatment of pneumonia are by no means a new procedure, I am of the opinion that this has not yet received the consideration and extensive introduction which it merits, and in saying what I have to say to-night, I trust that I am loyal to that spirit which prompts one to conservatism in the commendation of any curative measure until it has stood the test of experience. When, however, one has observed the magic changes which follow in the pneumonic condition under the beneficent influence of cold locally applied, as has been done by others as well as by myself on numerous occasions, I feel that this method has passed the experimental stage of clinical medicine, and I therefore hope that you will pardon me for appearing obtrusive when I again direct your attention to this subject.

Cold has been employed in the treatment of pneumonia for various purposes and in various ways. Jürgensen believes that the chief danger in this disease arises from the high fever, and which finally leads to cardiac failure. He appeals to the experiments of Zenker and others to show that high fever is detrimental to the fibers of the heart muscle and to those of the voluntary muscles. He therefore recommends cold principally with a view of reducing the pyrexia. It is a question, however, whether a high temperature of itself is more fatal in pneumonia than a low one; but this is a point which will be referred to later on. So far as I know, Niemeyer was the first to apply cold immediately to the chest for the purpose of reducing the activity of the local inflammatory process in the lungs.

It must be seen that these different views govern the practitioner in the mode of applying this remedy. If he believes in the constitutional nature of the disease, and especially if he thinks that the high fever endangers the integrity of the heart

muscle, his principal aim is to reduce the fever at large, and to accomplish this he immerses his patient periodically in a cold bath, which is done by Jürgensen and others. If he holds that the local trouble in the lung is responsible for the high fever, and that this constitutes the vulnerable point in the disease, he will pay less attention to the general condition and make his cold applications directly over the inflamed lung.

I believe that much of the ill-success which has followed the use of cold in pneumonia is attributable to the fact that it was employed according to the first method. The pyrexia of pneumonia is not the same as that of typhoid fever, or at least it does not yield to cold in the same way as that of the latter does. The former is best subdued by cold being applied directly over the affected lung as well as to the head, and general baths or spongings do not seem to be essentially indicated, and if the latter are applied they do not keep the fever down for any long period. If the fever and a great deal of the constitutional disturbance of pneumonia depends on the inflammatory process in the lung, then an abatement of the pulmonary disorder will strike at the very root of the difficulty, and it is clear too that the measure which accomplishes this must be applied continuously and persistently, and not, like in typhoid fever, at stated intervals. Moreover, it is a hazardous procedure to subject a pneumonic patient to the bodily changes and cardiac strain which are incidental to the giving of a general bath. It must be remembered that the heart is always implicated in pneumonia, and is therefore a weak and easily assailed organ.

How then is the cold to be applied, and how long must it be continued? The affected area must be surrounded with ice contained in bags which are wrapped in towels. If the disease is confined to the front base on one side, one good-sized bag will suffice; but if the exudation extends to the side and back, then at least one more bag must be applied laterally and as far back as possible. If the affection is

\*Read before the Philadelphia County Medical Society September 26, 1894.

†Professor of Diseases of the Chest in the Philadelphia Polyclinic, and Visiting Physician to Rush Hospital for Consumptives.

extensive, put on as many ice-bags as are necessary to cover the whole area. Watch the morbid process, for it is very apt to migrate from one spot in the chest to another, and if it does so, follow it up with the ice-bag.

The length of time for which cold is to be used must, in most cases, be decided by the amount of fever which is present. If this falls to or near the normal point, and shows a tendency to remain there, then the ice may be gradually removed. It is best, however, not to be in too much haste in withdrawing the cold, for frequently before this is off very long the temperature suddenly flies up again. If this takes place, and the temperature remains high after the ice is reapplied for some time, it is a possible indication that the inflammation has invaded a new field, and is not active in the old one. This has happened several times in my experience.

It must always be borne in mind, however, that the ice is not solely employed for the purpose of reducing the fever, but rather with the object of circumventing the exudative process and of hastening resolution in the affected part. There may be very little fever present in some cases of pneumonia, as in the aged, yet the destructive changes are going on in the lungs at a rapid rate. In senile and latent pneumonia the activity with which the ice is employed must be governed entirely by the impression which is made on the pulmonary disintegration. This must be the objective point and not the temperature.

This brings me to say something on the fever in pneumonia as a prognostic sign. Although a temperature of 105° F. is generally regarded more dangerous in the adult than one of 102°, I really believe that this is an error. When the fever is excessive, as when it rises to 107° or 108°, every one admits that this is almost necessarily fatal; but it must also be granted that a markedly low pneumonic temperature, as for example 95° or 96°, is equally fatal. The safety point, if such there be, lies somewhere between these extremes; and within a certain range I think we can look upon this fever as an indication of the degree of vital resistance which is present in the body. If it remains between 104° and 105°, the prognosis is good, provided other conditions are equal; but if it is either very high or very low, it is evidence of serious exhaustion and of

vital inadequacy to cope with the destructive forces.

This opinion is partly confirmed by the high authority of Dr. Wilson Fox, when he says, on p. 352 ("Diseases of the Lungs and Pleura"), that "the extent of the pyrexia has a less unfavorable influence on the prognosis than might be expected." Out of a total of 353 cases he shows, on the same page, that the mortality from 107° to 110° was 100 per cent.; from 106° to 107°, 42.8 per cent.; from 105° to 106°, 18 per cent.; from 104° to 105°, 7.4 per cent.; from 103° to 104°, 17.6 per cent.; and under 103°, 36.9 per cent.

What, now, is the local action of cold on the pneumonic process? This, I believe, consists in its powerful influence on the pulmonary capillaries and in its ability to resolve the exudate and infiltrate. It is well known that the most apparent lesion in acute pneumonia is an enormous distention of the pulmonary capillaries, with partial or complete stasis of the blood in these vessels, exudation of fluid constituents of the blood, and proliferation and accumulation of epithelial cells, and diapedesis of white and red blood-cells in the alveoli and bronchioles. Now it is well known that cold has the power of contracting blood-vessels, and from this action it can be understood why it should be of benefit in pneumonia. But how it can dissolve an exudate or an infiltration is not so clear to me. That it accomplishes this I am firmly convinced. For example, there is a pneumonic area which is wholly devoid of vesicular sounds, and has a flat percussion note and bronchial breathing, indicating beyond doubt that the process has passed beyond the stage of engorgement and into that of exudation or of infiltration; yet the application of ice to this spot will in a remarkably short time develop a new group of physical signs, such as crepitation, reappearance of the vesicular murmur, diminution of flatness, etc. This has not only been observed by myself over and over again, but is also dwelt on by Dr. Lees, who had an extensive experience in the use of ice in this disease, when he says (*Lancet*, November 9, 1889, page 894): "In many cases I noticed a striking arrest in the development of the physical signs," and that the ice-bag "distinctly tends to repress the inflammatory process in the lung."

Is the ice treatment applicable in croup-



ous or in acute catarrhal pneumonia, or in both forms of the disease? In my earlier experience I inclined to believe that it was only adapted to the treatment of the croupous variety, but further familiarity with the measure taught me its use in the acute catarrhal form. I have also given it a trial in chronic broncho-pneumonia and in pulmonary phthisis, but with rather indifferent results, if not with positive harm in some cases. I must admit, however, that in several cases of this kind it seemed to do exceedingly well. It must be borne in mind, too, that the ice-bag is strongly recommended by the late Dr. Brehmer and by Dr. Detwiler and others in the treatment of chronic lung trouble, and with such excellent testimony in its favor it is very probable that many of us do not yet understand the specific indications for its use.

Besides being useful in croupous pneumonia and in acute catarrhal pneumonia, it also has excellent effects in the capillary bronchitis of infants and in the catarrhal pneumonia which follows measles, diphtheria and scarlet fever.

It is also desirable in this connection to say something regarding the heart in this disease. From the tenor of much that is said and written on pneumonia at the present time, one receives the impression that more is to be feared from cardiac than from pulmonary failure. That the heart's function is impaired no one will, I think, deny. Indeed, this could not be otherwise, for the heart and lungs have a common nerve supply, are bound closely together by the pulmonary blood-current, and whatever invalidates one must also affect the other; but I believe that the doctrine that pneumonia becomes fatal because the heart is unequal to the work of forcing the blood through the engorged lungs, and all that we are required to do is to stimulate and to goad this organ, unmindful of what is going on in the lungs, is as imaginary in its conception as it is fatal in its practice.

The pulmonary circulation is undoubtedly obstructed, and there is no question but that the heart chafes, frets, and becomes seriously embarrassed. Dr. Wilson Fox (op. cit., p. 285) says that "one of the most important consequences of pneumonia on the circulation is the occasional occurrence of thrombosis in the pulmonary vessels leading to the affected part. This

event, caused in all probability by the retarded circulation in the lung, is no uncommon, and may, by extending to the larger branches of the pulmonary artery, be a source of immediate danger from sudden death, and may also, in great probability, retard the process of resolution and the subsequent convalescence." But is this any reason why we should whip up this organ in the hope that it may perform an impossible task, and stand by and do nothing to alleviate the blockade in front? Is this sound sense or physiological reasoning? No. We must discard this cart-before-the-horse theory and make strenuous efforts to remove the difficulty in the lung, and in this way liberate the heart from its entangled situation. To accomplish this very end there is no measure more efficacious than ice, and besides removing the engorgement and even the exudation in the affected lung, it also acts as a powerful stimulant to the heart's function. Indeed, it is chiefly for its serviceable influence on the heart that the ice-bag is recommended in chronic lung diseases by Dr. Brehmer and others.

In conclusion, I beg to say that the external application of cold in typhoid fever has reduced the death-rate from this disease to almost nothing, and I am sure it is not too much to presume that the same remedy, although differently applied, will do the same in the case of pneumonia. My opinion is based on what I have seen in my own practice and in that of others. In my collective report of fifty cases from various sources (see *Medical News*, June 24, 1893), there were two deaths. Since the publication of this list, I received abstracts of seventeen other cases treated by Dr. Jackson, of Brockville, Ontario, together with seven cases collected by myself, without a death, neither the histories of which, nor those of Dr. Jackson, had I time to write out since receiving the kind invitation from your Board of Directors to prepare a paper for this evening—making in all seventy-four cases of pneumonia treated with cold applications, and two deaths; or a death-rate of 2.70 per cent.

Now, the death-rate from pneumonia, when treated according to the current methods, is variously estimated from 20 to 30 per cent., hence the results from the cold-water treatment are at least ten times better than those which are obtained by other methods.\*

# MASSAGE *VERSUS* REMOVAL OF THE SOUND-CONDUCTING APPARATUS IN NON-SUPPURATIVE CASES OF DISEASE OF THE EAR.\*

LOUIS J. LAUTENBACH, M.D.,† PHILADELPHIA.

It has of late years become more and more evident that the symptoms of defective hearing, tinnitus, and vertigo, when not due to a disease of the auditory nerve, are occasioned not by a pathological drum-head, but rather by some lesion in the sound-conducting apparatus. The ossicles, instead of being freely movable one upon the other, are more or less rigid from abnormal attachments between them, or the walls of the middle ear cavity, or both. In consequence of these attachments the true arch of the ossicles has been disturbed and the stapes is driven into the oval window, often ankylosed, causing pressure on the labyrinth. This pressure on the labyrinthine fluid occasions the periodical vertiginous symptoms as well as the tinnitus, the defective hearing being due to the rigidity of the conducting apparatus and the contraction of the ossicular arch. This conducting apparatus may be compared to the levers and hammers of the piano. When the key is touched, if the joints of the levers are freely movable the hammer strikes the vibrating string; but should there be any rigidity in the mechanism the key must be struck with more force to produce an equal effect.

The membrana tympani, to which formerly such supreme importance was given as the essential to hearing, is now known to be of little value in this respect, serving as the outer fixation point of the ossicular chain and preserving by its elasticity the normal ossicular arch, being to some extent a protector of the middle-ear cavity, preventing the ingress of foreign bodies and being only to a slight extent concerned in the function of hearing by concentrating the sound-waves to the handle of the malleus. It is to the proper movements of the ossicles that we are indebted in the main for the conveyance of sound. If these are abnormally limited in their motion, either by attachments or over-

weighting, or by a shallowing of the middle-ear cavity, due to the impaction of the stapes or retraction of the membrane, thus shortening the ossicular arch, sounds are not carried at their normal intensity.

It is to these cases of ossicular attachments, overweightings, and shortened ossicular arches that the methods of treatment, pneumo-massage, and ossicular removals are adapted. Ossicular exercise, which I usually term ossicular massage, has for its object the regular movement of each ossicle one upon the other, with the consequent changes brought about as to the nutrition of their joints, from the friction and the increased circulation. It aims to increase the length of the shortened ossicular arch and also to draw out into a normal position a retracted or adherent membrane, while at the same time it endeavors to loosen a jammed stirrup or one more or less adherent to the oval window. In addition to this, pneumo-massage slightly influences the round window and the internal-ear fluids within, and likewise exerts some effect on the upper end of the Eustachian tube, as well as the entire mucous lining of the middle-ear cavity. Its action is mild and regular, simulating the effects of a well-trained masseur. It stimulates the parts, puts the mucous membrane into healthier condition, hastens the absorption of all morbid deposits, and gives to the muscles and ligaments their normal activities, and at the same time amplitude to the joint movements. Its action being a drawing out of the drum-head, with a corresponding outward motion of the attached ossicles, is therefore directly opposite to that produced by air-concussions and loud sounds, which so often, especially when continuous, occasion ear diseases, the whole tendency of modern ear use, due to the multiplicity of shops, factories, etc., being to drive in the drum-head and jam the stirrup in the oval window.

This method is not one of destruction, but of construction; it removes nothing; it allows the parts to remain intact, while it gives to them normal exercise of the

\* Read before the Philadelphia County Medical Society September 26, 1894.

† Surgeon to the Pennsylvania Eye and Ear Infirmary; Throat and Nose Physician to Odd Fellows' Home, etc.; late Chief of Eye Clinic, German Hospital.

muscles, ligaments, and articulating surfaces, and an increased and healthier circulation, with correspondingly increased and healthier secretions.

The practical deductions which I have reached, as the result of my use of ear massage, are:

1. The method is not difficult to apply, and can be used by any one who has a proper conception of the structure and functions of the ear, with a knowledge of the pathological conditions present.

2. There is no risk. It has never occasioned harm nor made the symptoms worse, nor does it in any way interfere with other treatment.

3. Should it fail in accomplishing the desired result, it does not prevent the use of further measures.

4. It has improved the hearing in over 90 per cent. of my cases.

5. In about 90 per cent. has the tinnitus been relieved.

6. It has perhaps in a little over the half removed the vertiginous symptoms.

Ossicular removals aim to relieve the same conditions by destroying the continuity of the conducting apparatus by taking out either one or more of the ossicles to the outer side of the ankylosis, usually removing at least one of the ossicles of the ankylosed joint. Of late years this has been modified by, in addition to removing one or more of the ossicles, mobilizing the remaining bone or bones.

As to the practical value of these operations, there is considerable difference of opinion among operators, but I believe the following statements will meet with little or no opposition from the impartial observer; they are formulated from the observations and results of many operators:

1. These operations are difficult. They require considerable skill and experience. Often the operator is not able to see what he is doing, but must feel his way very carefully. They should be reserved for the ear surgeon, as being the one most to be trusted with such delicate work.

2. The risks are considerable. Cases of permanent facial paralysis, persistent vomiting, and even death have occurred; whereas temporary palsy, acute inflammations of the middle ear, and caries are not uncommon results of the operation. Sometimes the very symptoms which called for the operation are exaggerated after its performance.

3. Should the operation prove a failure, it usually prevents the adoption of other measures, being thus truly a last resort.

4. It improves the hearing in perhaps a little over 25 per cent. of the cases.

5. It relieves the tinnitus in about 50 per cent. of the patients.

6. It has in about half the cases removed the vertiginous symptoms.

Having found, in a case unattended with suppuration, the ossicles to be rigid and not responding to the old treatment, we have either to pursue the massage method or that of ossicular removal; but it will be asked, How are we to decide between the two? There is no need to decide between them; the massage treatment should be instituted, and if unsuccessful, then are we to consider the question of operation. I do not believe any case should be operated upon until after the patient has been at least three months under treatment. I have heard operators say that they never operated until after they had thoroughly examined and for a long time treated the patient, and yet I remember one day in April of last year three patients presented themselves at my ear clinic who had been advised to have the operation performed, not one of whom had been under treatment for the ears, even as much as one visit, the opinion being given upon their first visit to an ear clinic.

During these three or more months the patient should be placed under the best hygienic influences, should be treated locally (nose, throat, and ears), as well as generally. Any part of the body needing it should receive proper attention. The ear treatment should include systematic pneumo-massage, and if deemed necessary careful phono-massage. If, after three or more months of such persistent treatment, there is no improvement of any kind, and if we are convinced, in a case of impaired hearing, that the auditory nerve retains its functional value, or that the tinnitus or vertigo, or both, are so great as to justify it, then only can we properly countenance an operation. I feel sure that the need of such an operation will rarely arise, even in a very large special practice. Personally I have performed but twenty-four such operations in five years, treating in that time over 4,000 ear patients.

The first of these I performed in March of 1889, removing the stapes as well as the



incus and mallens; the last in August, 1894, removing the incus only. In no other case have I advised the operation. I have held myself ready to do it in perhaps thirty or forty more, telling the patients that perhaps later it might be necessary, but the need for it has been dissipated by treatment.

There are distinct fields for the use of the massage and the removal treatments, the latter being advisable only where the former fails. I do not think that removal should ever be done without the previous continuous use of massage. To subject patients to operations, with the risk of making the conditions worse, and even that of death, when not absolutely necessary, I consider most reprehensible. After you have tried, and thoroughly tried, all the means at your disposal, including the proper and systematic use of massage, then only, if the symptoms should prove of sufficient gravity, will you be justified in subjecting the patient to the risks before mentioned. I have seen so many of the bad results of ossicular operations (in fact, more than the entire number of operations I have myself performed), and I so often meet with those who have been advised to have it done, and yet have not had their ears thoroughly treated, that I feel it to be necessary to condemn these operations unless they are done as a last resort to relieve either most distressing symptoms or to endeavor to restore hearing which cannot be otherwise improved. For the past few years there has been a great degree of recklessness in advising patients to have these operations performed. I remember the case of a patient with a watch-hearing distance of as much as eighteen inches (18:52) in the to-be operated ear, without vertigo, and but little tinnitus, being so advised. Now what were his chances of gain? Very little, as compared with his chances of loss. He almost surely would have been worse had he submitted to the operation. I will mention a typical case more fully. It proves interesting, from the fact that about six months' treatment has done for her more than any such operation could possibly have accomplished.

Mrs. E. H., aged forty-five years, in the winter of 1891 to 1892 had an attack of the catarrhal type of la grippe, during which time marked tinnitus of both ears developed, with defective hearing of the

left ear. In May of 1892, on account of a hypertrophic nasal catarrh, she put herself under the care of a throat specialist, who, to some extent, relieved her of the nasal trouble. The ear-symptoms increasing, she was sent to an ear specialist in October, 1892, who advised her, after examining her on two occasions, but not subjecting her to any treatment, that the disease of the middle ear demanded the removal of the ear-bones—that no other treatment was useful, whereas this operation was followed by good results in more than ninety out of one hundred cases; consulting her family doctor, he advised against the operation.

In February of this year she came to me, having in the mean time used no treatment except salt water for the nose and throat.

On examining the left ear, I found that she was troubled with extremely annoying tinnitus, with occasional vertigo, and that she could barely hear a fifty-two-ichn watch on contact; on the right side she had a hearing-distance for watch of twenty-two inches, with occasional tinnitus only.

The left ear, the one which she was advised to have operated upon, was the one to which I devoted my attention. After finding very marked retraction of the membrane, with little or no motion of the ossicles, and finding the auditory nerve in good condition, I subjected the ear to both pneumo- and phono-massage, especially the former, twice a week, with the result that her hearing has markedly improved. She now hears the watch at thirty-eight inches, a greater distance than in the good ear, in which she hears it at thirty-four inches.

In the left ear there is occasional tinnitus, only upon taking a head-cold; the tinnitus in the good ear is now more noticeable than in the bad one. The left drum-head, which was formerly retracted and of a dull leaden hue, without any ocular evidence of blood circulation, is now normal in shape, somewhat of a pearly pink color, and fairly well nourished.

In this case the tinnitus has almost entirely disappeared, there is no vertigo, and her hearing is quite fair for one of her age, much better than I have ever seen as a result of an operation on the ossicles. The ear in which the operation was to be



done, indeed, is now better than the ear supposed to be good.

Is it not better to use a method which is painless and which is unattended by any risk, local or general, one which is almost always successful, at least in some degree, and which leaves the anatomical structures so that, if necessary, we can apply other methods, and which, if unsuccessful, at most delays future treatment for from three to six months only, than to subject the patient to an operation which

is painful, uncertain in its effects, one which destroys structures that cannot be replaced, so that if unsuccessful, which it is in more than half the cases, the patient leaves all hope behind, and which sometimes intensifies the very symptoms for the amelioration of which the operation was performed? It seems to me that there can be but one answer. In non-suppurative cases of ear disease use massage and other necessary treatment first; in case of failure, then only, the operation.

### ALTERATIONS OF THE URINARY STREAM.

Dr. Alexander Payer, of Zurich (*Wien. Med. Presse*), has made a study of the changes in the urinary stream.

*Projective Force of the Stream.*—A strikingly long stream is characteristic of a pathologically developed detrusor, due to hindrances to micturition in the urethral canal, such as follow moderate strictures, a narrow external orifice, or from spasm of the detrusor. Weakening of projective force of the current is, at a certain age, pathognomic of prostatic hypertrophy, and is seen in weakening of the detrusor from chronic inflammation of the mucous membrane and muscular tissue, from neglected gonorrhoea, in atony from fatty degeneration of the muscular tissue, as in the course of acute infectious diseases, like typhoid fever or dysentery, and from voluntary retention of the urine where micturition is painful, as in stone in the bladder and fissures of the neck of the bladder. A decrease of force is observed in neurasthenics and in spinal diseases and tabes.

*Decreased Caliber of the Stream.*—Hypertrophy of the prostate, or stricture, will diminish the caliber. In prostatitis the current falls vertically down, and in stricture as well, but in the former the force is not increased by pressing, while in the latter it is. Spasmodic contractions of the urethra from general diseases may also cause a diminution of the caliber.

*Altered Form of the Stream.*—A deviation from the round form is observed as the earliest sign of stricture. In de-

creased force of expulsion the form is changed. Change of form is not a certain sign of stricture.

*Continuity of the Stream.*—Sudden stopping of the stream is supposed to be pathognomic of stone, but it is rarely observed except in children. In adults, the stone must be very small and light. It is, relatively, frequently remarked in spasm of the sphincters in neurasthenics.

*Starting the Stream, etc.*—A drop-by-drop passage of the urine is characteristic of great stricture and great pressure. In some cases there follows a round and strong stream when it started drop by drop; spasm of sphincter.

*Dripping of Urine.*—Dripping of urine after passage of the stream is a frequent occurrence, and is of varying importance, according as it appears after voluntary urination—a short time after—or in the intervals. It is due to a relaxation of the muscular tissue of the urethra, and the urethra lying in a half-opened condition does not press the urine out over the bulbous portion, so that it accumulates and is suddenly ejected after urination, or it drips away slowly during walking. Narrow strictures also cause it, where the portion posterior to the stricture fills like a sack, and unless emptied by milking movements by the patient, it drains away afterward. Abnormal narrowness of the orifice or very great phimosis are other causes. Involuntary urination may occur at any time, while dripping only follows urination.—*Mass. Med. Jour.*

# THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

Address all communications to P. O. Box 843, Philadelphia, Pa.

HAROLD H. KYNETT, A.M., M.D.  
Editor.

PENFIELD PUBLISHING COMPANY  
Publishers.

Editorial Offices, 1026 Arch Street, Philadelphia, Pa.

Entered as second-class matter at Asbury Park, N. J.

---

**TERMS:**—Three Dollars a year in advance. Sent four months on trial for \$1.00.

**REMITTANCES** should be made payable only to the Publishers, and should be made by Money Order or Registered Letter.

**NOTICE TO CONTRIBUTORS:**—We are always glad to receive articles of value to the profession, and when used they will be paid for, or reprints supplied, as the author may elect. Where reprints are desired, writers are requested to make a note of that fact on the first page of the MS. It is well for contributors to inclose stamps for postage, that the articles may be returned if not found available.

---

SATURDAY, OCTOBER 20, 1894.

---

## EDITORIAL.

### THE ETHICS THE LAW TEACHES.

The "code of ethics" has been rather elaborately treated in our medical journals and societies. Many of those discussing the ethical questions inseparable from the honorable practice of the medical profession, do not stay down close to the ground where men live and their work is done, but take flight into the ethereal in seeming blind search for some new beatitude. It is not with the "irregularities," the palpable immoralities, nor those digressions from the lines of professional duty as marked out by the schools, that it is our present purpose to deal. It is with the too free dealing with names and characters, with the slurs, epithets and, what is worse and more damaging, the calumnies uttered against men who have their professional lives to live.

Imputations are something more than the allegation of mistakes or the common imperfections of humanity. Harsh opinions are often ventured upon circumstances and conditions stated by others, and without personal knowledge of the specific facts. An uncharitable opinion may have its foundation upon premises easily fabri-

cated, but the fact of being fabricated does not deprive them of their vicious and damaging elements, nor does it relieve the calumniator of responsibility.

The report of a single act of delinquency, if credit be given it, is at once fatal to the most exalted reputation. Reflections upon a man's conduct or principles necessarily tend immediately to debase him, to degrade him from the position he holds in the favor and esteem of others, and to exclude him from enjoying that degree of success to which his merits entitle him. Every man has the right to the enjoyment of the character and reputation which are the creations of his own exertions and self-denials.

The physician's chief capital is the confidence of his patrons and that of the fellows of his profession. The one who by libelous or slanderous speech impairs or deprives him of this confidence is as much a wrong-doer as if he had deprived him of some specific article of property. The nature of these injuries excludes remedy by restitution. That cannot reach and correct the mischief done. Recanta-

tion is unsatisfactory; it bears the stamp of suspicion and is often forced. Apology always comes too late. Such remedies do not reach down and eradicate the motive and intent, nor go out and undo the evil done. It is impossible to determine how far spoken words of defamation will extend by innuendo. Character and reputation are peculiarly susceptible of injury. Confidence in an individual is destroyed by slight causes. Hence the importance and general necessity of protecting reputation, where the "code of ethics" or the preventive restraints exercised within the profession fail, by the restraints of law through such provisions as meet the exigencies of each and all cases as they arise. The law from the soundest and most obvious principles of justice interferes to protect the man, whatever his occupation or profession, from unjust and malevolent aspersions which deprive him of the profits and advantages which, as a member of the community, he is entitled to enjoy.

Where imputations affect a man in his profession or means of livelihood, the law gives a substantive right of action (Starkey), though the party slandered may be unable to prove any specific loss or damage. This for the reason that a man might be effectually ruined in his business by the slander before his proof of specific damage could be completed. Hence the general rule that words are actionable, without proof of special damage, which directly tend to the prejudice of any one in his profession, trade or business. Said of a surgeon, "I wonder you had him to attend you. Several have died that he had attended, and there have been inquests held on them"—these words were held actionable. So also the words, "He is a bad character. None of the medical men here will meet him," have been held actionable as imputing the want of a necessary qualification for a surgeon in the ordinary discharge of his professional duties.

Generally, it may be said that any words

spoken of a professional man that imply unfitness, incapacity or gross ignorance or unskillfulness in his profession, are actionable. This applies in all cases where special damage can be inferred as the natural result or probable consequence of such words. It is actionable to charge a physician with malpractice; case in point: "He killed my children; he gave them teaspoonful doses of calomel and it killed them." This, although a specific charge, was held nevertheless to be a general imputation of malpractice, which amounts to a charge of general ignorance or want of skill. So the mere fact that words relate to a specific case does not strip them of the character of a general imputation, if their effect is to make a general charge of ignorance or want of skill. The false and slanderous may be spoken of a physician's practice in a particular case, ascribing to him only such a want of information and good management as is compatible with great general knowledge and skill in his profession, and when such a case arises, unless some special damage exists, his character will be considered as unhurt and no damages will be presumed. But, on the other hand, it is indisputably clear that a calumnious report concerning a physician in a particular case may imply gross ignorance and unskillfulness, and do him irreparable damage. A physician may mistake the symptoms of a patient, or may misjudge as to the nature of his disease, and even as to the powers of medicine, and yet his error may be of that pardonable kind that will do him no essential prejudice, because it is rather a proof of human imperfection than of culpable ignorance or unskillfulness. On the contrary, a single act of omission of his may evince gross ignorance and such deficiency of skill as will not fail to injure his reputation and deprive him of general confidence.

It is needless to quote further words made actionable by the law. The law,

applying itself to the urgency of these cases, to the protection of character and reputation, proceeds by assessing pecuniary damages for the mischief done. Probably no other method would be so effective in promoting discreet speech as risk of draft upon bank account.

There can be nothing objectionable, legally or ethically, to just and fair criticism of professional qualifications. Such is needful for the correction of errors and to make possible advances in knowledge, but persons in exercising this privilege must confine themselves within the limits of the truth, and are not licensed to traduce or calumniate character by false or malicious statements, recklessly made for the furtherance of private malice or personal ill-will. By harsh, unjust and uncharitable criticisms, by the lash of the tongues of men who never pause to consider the gravamen of their accusations, many a worthy man has been driven to the wall. If every man, professional or other, would carefully study his own experiences he would reverse his judgment as to many of his fellows.

There are men in the profession who would seem to rather pride themselves in their roughness, in their ignorance of those little amenities, the small courtesies

and charities of act and speech so easy of practice and so grateful to the recipient. The important consideration in which they alone hold themselves and their professional selfishness prompt them to decry and apply ungenerous and damaging epithets to the fellows of their profession. They would make up for the want of larger ability by noise and bustle. Such men forfeit largely that valuable esteem of the profession and that regard of the communities with which they are in touch, and upon which their influence and usefulness largely depend.

As there is a common sense in men which detects sham, so there is a better sense which detects and despises the ungenerous. All good men and women love to come within the sphere and attractions of those who appreciate and practice what has been called "the small, sweet courtesies of life." It is impossible to measure the extent to which these courtesies take hold of and influence men. They are the talismanic influences which make names to be honored, and which open and widen fields of work and usefulness. The constant exercise of good offices, of professional aid and friendship, will help along a difficult way many a hard-pressed, struggling man.

#### THE TREATMENT OF STYES.

The *Gazette Médicale de Paris* publishes an article on this subject by M. Ripault, who recommends the repeated applications of antiseptic compresses. After the pus has formed an incision is made and slight digital pressure is employed to aid in the expulsion of the core; hot compresses accomplish the rest. In order to prevent a return of the symptoms, an antiseptic ointment consisting of seventy-five grains of vaseline and three-quarters of a grain of yellow mercury oxide should be applied to the eyelids every night, and both morning and evening the eye should be bathed with a warm solution of borid acid in water or of corrosive sublimate, without alcohol, in the proportion of a grain and a half to fifteen ounces and a half of water.

The preventive treatment is based on

the etiological diagnosis. The conjunctiva, the lachrymal ducts, and derangements of refraction are treated; the patient is instructed to take special precautions (using green protectors, avoiding scratching of the eyes, etc.) when his work exposes him to any irritating action, above all if he is subject to inflammation of the eyelids. The general condition should never be neglected. If there is a furcular diathesis, alkaline preparations should be employed such, as sodium arsenate or bicarbonate, and tar water; if the patient is of a lymphatic temperament, tonics and iodized preparations should be employed, and finally, at times, an antidiabetic diet may be useful. The treatment should then be not only curative but above all preventive, and should be local and general.—*N. Y. Med. Journal.*



## ABSTRACTS.

## VIQUERAT'S TREATMENT OF TUBERCULOSIS.

ARTHUR GAMGEE, M.D. EDIN., F.R.S.

The sensational paragraphs which have appeared in various continental journals, and which have been copied into the English papers, announcing the startling discovery of a new and certain method of treating phthisis and other tuberculous affections induced me to telegraph on Tuesday, September 19th, to Dr. Viquerat, of Moudon, asking him whether he would be at home on the following day, as I wished to see him in reference to his treatment of tuberculosis. Receiving an affirmative reply, I left Lausanne by the 5.30 A.M. train and shortly after 7 A.M. reached Moudon, a quaint medieval little town, once the capital of the Canton de Vaud. I was received by Dr. Viquerat with the greatest courtesy, and in my interview with him, which lasted until mid-day, he manifested the greatest readiness to acquaint me with his method and frankly replied to every question which I put to him.

In the criticisms which I shall feel called upon to make, and the warning which I shall feel compelled to address, I must neither be understood to impugn Dr. Viquerat's good faith and veracity, nor to cast a slur upon his scientific capacity and his professional devotion. It will, however, be my duty to draw attention to the weak links in the chain of evidence which Dr. Viquerat adduces, and to show, as I think, conclusively, that his method of treatment is yet in the strictly experimental, or rather tentative, stage, and that the evidence in its support is insufficient to justify the confident anticipations which have been indulged in. Instead of building castles in the air only destined to be dissipated, let the friends of phthisical patients in England await the calm judgment of those able to form a sound opinion when the necessary experimental and clinical evidence shall have been laid before them and the means afforded of adequately controlling Dr. Viquerat's assertions. The experience of error into which so great an observer as Koch fell, and the fact (which I am bound to refer to) that Dr. Viquerat's

enthusiastic nature has led him, on one occasion at least, to announce a therapeutical discovery which has disappointed all expectations, not only justify but compel caution. Dr. Viquerat may rest assured that neither praise nor gratitude nor honors will be grudged him if he prove successful in his struggle with that disease which surpasses all others in the victims which it claims; on the other hand, in the interests of humanity, the leaders of scientific medicine have a right to claim that they shall be allowed to examine the minutest details of alleged medical discoveries before these are submitted to the popular suffrage. The statements in this article which relate to the details of Dr. Viquerat's method of treatment and to his opinions are derived in part from a pamphlet lately published by him,\* in part from a report† dated September 3, 1894, signed with the initials "G. P." and of which the writer is a young medical man until recently a student in the University of Geneva, but mainly from information directly communicated to me by Dr. Viquerat in my interview of September 20th.

Dr. Viquerat's method for the treatment of tuberculous diseases is based upon and suggested by principles and general methods which we owe in part to the great Pasteur and in part to two distinguished pupils of Koch, Behring and Kitasato. Pasteur had shown that animals could be rendered immune from the attacks of certain virulent infective diseases, such as chicken-cholera and anthrax, by inoculating them with successively increasing doses of attenuated cultures of the bacteria which occasion them. It was afterward found that protective immunity could likewise be secured by injecting cultures

\* Das Heilverfahren der Tuberculose gegründet auf bacteriologisch-experimentelle Studien. Von Dr. Viquerat in Moudon. Erste Auflage. Moudon Buchdruckerei. J. Kretz-Bettemann. 1894.

† Rapport sur les Resultats obtenus par M. le Dr. A. Viquerat dans son Traitement de la Tuberculose (Geneve, 1e, Sept. 3, 1894). Imp. Romet, Boulevard de Plainpalais, 26.

sterilized by heat or cultures which had been freed from all bacteria by filtration through unglazed earthenware. Such sterilized or filtered cultures owe their immunizing properties to soluble chemical substances which are produced by the pathogenic bacteria, and which, when introduced in sufficiently large quantities into the animal organism, induce all the phenomena of the special bacterial disease. This immunity against tetanus or against diphtheria can be induced by repeated subcutaneous injections of gradually increasing quantities of the soluble toxic substances which are formed by the tetanus and diphtheria bacilli respectively. It is, however, to Behring and Kitasato that we owe the conception and the actual method for treatment of bacterial diseases by means of the serum of immune animals, and it is they who may be said to have introduced "serum therapeutics." They showed in 1890 that when the blood serum of rabbits which had been rendered immune from tetanus was repeatedly injected subcutaneously into mice these creatures, which are peculiarly susceptible to the tetanus poison, were in their turn rendered immune so as to be ultimately unaffected by the injection of the most virulent cultures of the tetanus bacillus or the strongest solution of its poisonous products. They found, moreover, that the serum of an immunized animal when mixed, outside the body, with a virulent culture or a toxic solution of its soluble products destroyed their power of inducing the phenomena of tetanus. Farther, they discovered that the serum of animals rendered immune from tetanus when repeatedly introduced into the body of others already suffering from the disease caused the symptoms to abate and often led to recovery. These beautiful and wonderful discoveries led, in the first instance, to a rational method of treating tetanus as affecting man which, in the hands of Tizzoni, Javel, and others, has enabled them to save many lives which would otherwise have certainly been sacrificed. The same method applied by Behring to diphtheria has led to the treatment of this disease by the serum of horses rendered immune from diphtheria—the treatment which, as carried out by Dr. Roux, the distinguished Chef de Service of the Pasteur Institute in Paris, has reduced the mortality from 63 per cent. of all treated (the proportion of deaths in the cases occur-

ring in a hospital when the old treatment was at the same time being carried out) to 26 per cent., and, as carried out in Berlin, has reduced the mortality from 41 to 15 per cent. of all cases treated (Aronson). If one considers that a large number of the 300 cases treated in Paris and the 274 cases treated in Berlin were in the last stages of the disease, and that in many the gravest complications existed, it cannot be doubted that when the treatment of diphtheria can be undertaken in its early stages the results will be still more remarkable, and that this dreaded disease will, through the beneficent researches of science, have been deprived in great measure of its power of evil.

Inasmuch as pulmonary phthisis and other tuberculous affections are the result of the activity of a pathogenic micro-organism, the tubercle bacillus of Koch, it occurred to Dr. Viquerat to employ in this treatment the serum of animals immune from tubercle, and in the first place to endeavor to find some animal easily available to man which possesses a natural immunity for tubercle. It has been shown how *artificial immunity* from the inroads of pathogenic bacteria may be secured, and a few words must now be devoted to *natural immunity*. There exists a natural immunity, relative or absolute, which explains why certain individuals readily fall a prey to specific bacterial diseases, such as the infective and contagious diseases, while others escape scatheless who are placed under precisely the same conditions. There are instances of natural immunity possessed by certain of the lower animals which are very remarkable. Thus the common rat possesses *almost* complete natural immunity from anthrax, while the white rat is readily affected by it. In his inquiries Dr. Viquerat discovered that the only domestic animals which under the normal conditions of their existence have never been observed to become tuberculous are the ass and the mule. Even the horse, as the writer learns from a letter received from Dr. Guillebeau, the eminent Professor of Pathology in the Veterinary School of Berne, is so rarely the subject of tuberculous affections as to have been long held to possess a natural immunity from such diseases; its absolute immunity has in recent times been disproved.

In the articles which have appeared on the subject of the Viquerat treatment the

statement is made that it consists in the injection of the serum of asses' blood into the body of the person or animal affected, and in the pamphlet published by Dr. Viquerat, as well as in the report already referred to, allusion is only made to asses' serum without any mention of the animal yielding the serum having been subject to inoculation with tubercle. Dr. Viquerat, however, brought before the writer facts which prove that the immunity enjoyed by the ass is not an absolute one, and informed him that, in order to strengthen the natural immunity, he subjects the ass or mule which is to yield the immunizing serum to inoculation with cultures of the tubercle bacillus. The ass and the mule, according to Dr. Viquerat, though never becoming subject to tubercle under ordinary conditions and offering a far greater resistance than the horse, do not enjoy an absolute immunity under certain experimental conditions, though he asserts that in the case of these animals the tuberculous affection which is artificially induced *invariably terminates in recovery*. The natural immunity of the animal, he asserts, is reinforced by the temporary disease, so that its blood serum introduced into the body of other animals possesses the power of arresting the progress of tuberculous affections and (if these are uncomplicated) of curing them. The actual process employed by Dr. Viquerat in order to prepare the ass or mule which is to yield the serum for the treatment of tuberculous affections is as follows: 30 c.c. of an active bouillon culture of the tubercle bacillus are injected subcutaneously, and, immediately before or afterward, 15 c.c. of the same culture are injected into the blood-stream through one of the jugular veins. He asserts that subsequently the ass or mule exhibits no rise in temperature or other symptoms of disease, and that the only objective phenomenon is a remarkably voracious appetite. As the animal, according to Dr. Viquerat, invariably survives, no evidence of any tuberculous infection following the inoculation would be available had he not killed a series of donkeys at varying periods subsequent to the operation. As a result of these observations he asserts that if an ass or mule, treated as above described, be killed between the fifteenth and thirtieth day after inoculation, the lungs are found to be pervaded by miliary tubercles which are never

surrounded by hyperæmic lung tissue. If the animal be killed between the thirtieth and fortieth day, Dr. Viquerat asserts that the tubercles are found to be disappearing, leaving no trace behind them, while after the fortieth day the lungs are always found to have returned to a condition of perfect health. It is from the forty-fifth day, when spontaneous cure has already been more than completed, that the animal is used to supply the curative serum. With this object it is bled, and the blood is allowed to stand over ice so as to allow it to clot and to permit of the separation of serum. To this serum from 0.5 to 0.75 per cent. of carbolic acid is added, and it is then stored in stoppered bottles until required for use. Without wishing to be hypercritical, I must point out that the above statements are of so remarkable and withal of so improbable a character that they cannot be accepted until the most complete and detailed record of each experiment is published, and until the results are confirmed by independent observers. The number of observations would have to be very large in order to establish the fact that the ass or mule is after inoculation into the blood invariably affected by an acute miliary tuberculosis of the lungs—*a miliary tuberculosis always terminating in recovery*. It may very reasonably be objected that, unless the chances of error were minimized by such a number of experiments as the costliness of the animal experimented upon almost precluded, the probability is that the asses which when killed exhibited pulmonary tuberculosis would in the natural course have succumbed, while those which when killed exhibited no tubercle had probably remained uninfected.

A further criticism which will suggest itself to all who are conversant with experimental bacteriology is that, while Dr. Viquerat has followed up to a certain point the method of Pasteur, of Behring, of Kitasato, and others of inducing immunity against a bacterial disease by inoculation of the bacteria which induce it, his method is altogether exceptional, as he satisfies himself with a single inoculation and furnishes no proof that he has thereby induced *absolute artificial immunity*. But "enough of these pedantic objections" may be the remark of the enthusiast, only too anxious that Dr.



Viquerat's predictions should be immediately accepted. "What are the facts on the strength of which Dr. Viquerat relies?" The first and, as it appears to me, the most promising of all the statements which Dr. Viquerat communicated to me was the following: that when the immunized serum of the ass or mule is injected every second day into guinea-pigs which have been fifteen days previously rendered tuberculous by the inoculation of active tubercle cultures, the tuberculous glands which had become enlarged and perceptible rapidly become smaller and disappear, while the animal, instead of dying fourteen or fifteen weeks after the inoculation, regains perfect health. If the observations made by Dr. Viquerat on this point be accurate, it appears to me that they offer the surest promise that *sooner or later* tuberculous diseases will yield to the treatment by the serum of animals rendered *perfectly immune* in respect of tubercle. But it is on the results which he has obtained in the treatment of tuberculous diseases affecting man that Dr. Viquerat in great part relies. Since February he has treated twenty-five cases, among which are many diagnosed as cases of pulmonary phthisis in its earlier and later stages, as well as others representing various forms of surgical disease *alleged to be of a tuberculous nature, no proof whatever being given of the fact.* His usual plan is to inject 12 c.c. of the prepared serum every third day. I saw two patients thus injected, and I can vouch for the fact that in neither of these had the numerous injections to which they had previously been subjected led to any local accident—such, for instance, as suppuration.

All the information which is furnished in regard to the twenty-five cases of alleged tuberculous affections treated up to the present time by Dr. Viquerat is contained in the so-called "report," to which allusion has already been made. This "report"\* furnishes the most unsatisfactory and disappointing evidence which can be adduced in support of Dr. Viquerat's statements, and the amusing tone of authority assumed by its author is no less remarkable than the looseness of nearly every statement which it contains. Before criticising the list of cases given in this so-called report, it must be stated that at

the foot of the document is printed the following announcement: "Sur la vue de ce rapport médical un Institut vient d'être créé à la Côte-Drize à Genève, dans lequel M. le Dr. Viquerat continue ses travaux de recherche et où une clinique s'ouvrira le Nov. 1er, 1894. Les tuberculeux seront traités à l'Institut Viquerat dans l'ordre de leur inscription." Seeing the importance which, according to the paragraph just quoted, appears to have been ascribed to this so-called report, it would have seemed reasonable not to conceal the identity of its author, and to have furnished proofs, which are doubtless forthcoming, that he has now ceased to be *in statu pupillari*, and that his report may therefore be properly termed a medical report. But to return to the twenty-five cases of supposed tuberculous affections referred to in the report. I must point out that no conclusions whatever can be drawn from the results of the treatment of the surgical cases which are diagnosed as tuberculous in character, as no grounds are given which permit of the accuracy of the diagnosis being tested. Hospital surgeons will share the skepticism of the writer in reference to cases reported as follows:

"CASE 10.—R., Moudon, multiple cold abscesses, osseous tuberculosis, fistulæ. Improved; still under treatment

"CASE 11.—L., Ermanche, tuberculosis of the radius, fistula closed. Pains ceased, improved; still under treatment.

CASE 12.—C., Lucens, tuberculosis of the ulna, cold abscess of the neck. Cured."

Turning now to the cases diagnosed as pulmonary phthisis, it is found that they number 15 out of the total 25. Of the phthisical cases 8 are stated to have been in the first and second stages of the disease and 7 in the third stage—*i.e.*, cavities existed in the lungs; in 2 of these 7 cases laryngeal tuberculosis existed. Of the cases in the first and second stages the majority are stated to have recovered, but inasmuch as in these again no details whatever are given, one is compelled to be skeptical. The value to be attached to a diagnosis of phthisis in the first and even the second stage must depend entirely on knowledge of the skill and habitual accuracy of the physician who has made the diagnosis; great, however, must be the faith of the physician who would ac-

\*The Lancet, September 29, 1894.



cept such notes of a case as the following:

"CASE 22.—M. G——, Penay, pulmonary tuberculosis, first and beginning of second stage. Cured.

"CASE 23.—P., Chesal, pulmonary tuberculosis, second stage; improved; still under treatment."

Passing now to the seven cases of phthisis in the third stage—that is to say, in which the disease had progressed to the formation of cavities—one is said to have recovered. The following are the notes of this case:

"CASE 2.—M. E. C——, Moulin de Penay; pulmonary tuberculosis, second and third stage; acute form (*forme galopante*). Cured."

Is one to suppose that the cavity or cavities have disappeared in the few months which at most have elapsed since this case was treated, or that by "cured" are understood cessation of morbid symptoms and apparent return to health? Unfortunately, the physician knows that even under such circumstances one dare not speak, after only a few months of respite, of a case of advanced phthisis being cured. Excluding this one case, of the

remaining six cases of phthisis in the third stage one (No. 9) ceased the treatment and died; one (No. 24) became affected with pulmonary gangrene and stopped the treatment; one (No. 25) has not improved, but is still under treatment; and three are said to have improved somewhat, but to be still under treatment.

The above short analysis of the cases which have as yet been treated by Dr. Viquerat's method justifies the opinion, which I expressed at the commencement of this article, that this method of treatment is yet in a strictly experimental or rather tentative stage, and that the evidence in its support is insufficient to justify the confident anticipations which have been indulged regarding it.

Notwithstanding the criticisms which I have felt compelled to make, I would, in conclusion, state that it appears to me that Dr. Viquerat is engaged in the study of facts which promise to lead to results of the greatest practical value, but only on condition that he does not deceive himself and others by supposing that the discovery of the method of curing tuberculous affections is already an accomplished fact.—*Lancet*.

#### DIPHTHERIA TREATED BY ANTITOXIN.

Hunter Urquhart Walker, L.R.C.P. and S. Edin., late Medical Officer of Health, Workop, Notts, says (*The Lancet*):

"I was so struck with the results produced, or apparently produced, by this drug that I determined to investigate the matter, and when I had a chance put antitoxin to the test. So I procured a small quantity of Behring's solutions. It is impossible, I know by sad experience, for the hard-worked general practitioner to be thoroughly versed in the great army of new drugs that we have in the market, and I may therefore be pardoned if I state here for the benefit of my readers one or two facts with regard to the drug in question. Antitoxin, I think, deserves special consideration from us, and I shall have attained my object if others will state their experience of the drug and say whether it does or does not bear out what has been said of the new specific.

"With regard to Behring's solution, it

has been proved that if a mixture of 0.001 c.c. with the same amount of poison is subcutaneously administered to guinea-pigs, not only are no symptoms of disease caused, but also no local symptoms are observable, especially no infiltration at the place of injection. The antitoxin solution contains 2 to 2.5 per cent. egg albumen and a further admixture of 0.4 per cent. trikresol for preservation purposes. For the immunization of adults and elder children 1 c.c. of the solution is injected subcutaneously by means of a Pravaz syringe which has been previously sterilized by alcohol and three per cent. carbolic acid or one per cent. trikresol solution. For young children up to two years the dose should be 0.55 c.c. The above quantity of antitoxin thus administered to persons threatened by diphtheria is at least ten times as much as is required to render them immune. The immunity from diphtheria is therefore much more lasting.

"I was called in to see the patient, eight years of age, on July 27th. I was told she had been ill for a day or two. She had passed a very restless night. On the 28th the child seemed more restless, the color in the face was rather darker in hue, the pulse quicker and the breathing more difficult. The throat presented much the same appearance as on the previous day. On the 29th the child was distinctly worse, especially the breathing. The fauces on the right and left sides were covered with membrane. In the evening the respiration was very quick. On the 30th the membrane was well formed, even extending well over the soft palate and hanging down into the mouth. Up to this time the child had been treated with iron and chlorate of potash internally and the constant use of the lime-water spray. (One patient under my care just previously—a very bad one—did so remarkably well with the lime-water spray that I naturally did not wish to discard this method of treatment in favor of another of which I had little or no experience.) However, it was evident that something more would require to be done if the patient was to improve, for I noticed that in spite of the treatment another patch of membrane had formed in front of the curtain which hung down from the soft palate. I resorted to antitoxin. Eleven minims of antitoxin were then injected into the forearm with strict antiseptic precautions. The temperature at the time of injection was 103° F., and the pulse 140. In four hours after the injection the child was much improved. There was no fever and the pulse was quite quiet. She had a good night and had to be roused by the nurse to receive her nourishment, which throughout consisted of beef tea, chicken soup, brandy and milk and wine whey. On the 31st I noticed that the same improvement continued, although the membrane was still present. However, it was apparently loosening at the right side. My patient informed me that her temperature was 98.4° F., and I found she was nearly correct, as it was normal. During the day much of the membrane came away. The last patch to form had disappeared. All that was to be seen was on the uvula and on the left side. On August 1st all signs of membrane had disappeared, the temperature was normal and the pulse good. The patient begged to be allowed to have her

picture-books in bed. The throat caused her no pain. From that date uninterrupted recovery took place.

"I would especially notice in this case that within a few hours the temperature was reduced four degrees and afterward remained normal. The constitutional disturbance was at once checked, although the membrane still remained on the uvula and left side of the throat. The new patch on the soft palate at once disappeared, and the appearance generally became more normal. The injection in this case, as in other cases where it has been used, was entirely innocuous, being followed by neither local nor general disturbance."

The following reports of cases in which this mode of treatment has been employed are from the *British Medical Journal*:

Mr. J. Townsend Barker, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., D.P.H. Camb., medical officer for Streatham, reports two cases:

CASE I.—A. T., aged 2, a female; taken ill September 19, 1894, with sickness, feverishness and dullness. First seen in the evening, when a patch of membrane was discovered on the right tonsil the size of a threepenny piece. Treatment consisted of a mixture of perchloride of iron and glycerine given every two hours and the painting of the throat with sulphurous acid and glycerine.

September 20th. Temperature: morning, 102.6° F. Pulse, 144. Child dull and heavy. Both tonsils and soft palate covered with membrane and several patches on pharynx. In the evening the membrane was extending and paraffin was substituted for the sulphurous acid paint. The urine contained no albumen. Temperature: evening, 100°. Pulse, 144.

September 21st. The throat appearances as before, but membrane is thinner. A croupy cough has supervened and some laryngeal stridor. Temperature: morning, 102.2°. Pulse, 120. Urine: no albumen. In the evening the temperature had fallen to 98.4°; pulse, 132; the laryngeal symptoms continued though the child had been tent-bedded and steamed all day.

September 22d. The throat somewhat cleaner and less membrane on the pharynx; tonsils still covered; laryngeal stridor and cough continued, though ameliorated. Temperature: morning, 98.4°; child still dull and apathetic; pulse, 132. By the

kindness of Mr. Zimmerman I was furnished with mxx of Aronson's antitoxin, and in the afternoon I saw the child again in consultation with Dr. Wilberforce Smith and injected mxx into the outer side of the thigh. The previous treatment was continued. The child got brighter shortly after the injection. Temperature: evening, 98°. Pulse, 132.

September 23d. Temperature: morning, 97.4°; evening, 98°. Pulse: morning, 130; evening, 130. Urine: no albumen. Throat cleaning; laryngeal symptoms gone; child feeding well and much brighter.

September 24th. Tonsils and pharynx clean. No membrane visible; no laryngeal symptoms. No albumen. Temperature subnormal.

September 25th. A trace of albumen in urine, which disappeared the following day.

Henceforward the child rapidly regained strength, and no further complications have so far ensued.

CASE II.—M. T., aged 27, mother of the above. Taken ill on September 22d. Felt chilly and prostrate all day. At night pains in back and limbs came on, with severe frontal headache and slight sore throat. A small patch of membrane was visible on the lower part of the right tonsil. Urine: no albumen. Temperature: evening, 102°. Pulse, 156. Treatment a mixture of perchloride of iron and glycerine every two hours, and paraffin as a throat paint every four hours.

September 23d. Temperature: morning, 100.8°; evening, 100.8°. Pulse: morning, 144; evening, 130. Thick membrane covered both tonsils. Urine: no albumen. Patient took plenty of nourishment, chiefly Benger's food and beef-tea, and did not object to the paraffin. The throat was ordered to be sprayed with a solution of lactic acid *zij* in *℥viij* of lime-water alternately with the paraffin painting.

September 24th. Temperature: morning, 99°; evening, 100°. Pulse: morning, 124; evening, 110. General and local conditions same as yesterday.

September 25th. Temperature: morning, 97.6°; evening, 99.4°. Pulse: morning, 112; evening, 96. Urine contained a trace of albumen. In the evening the tonsils were cleaner than on the previous day, but coincident with a slight

rise in temperature there was an increased feeling of illness and a slight formation of membrane on the anterior pillars of the fauces on each side. I injected mxx of Aronson's antitoxin (all we could obtain). The patient voluntarily described the effect of the injection as that of a powerful stimulant. The feeling of depression from which she suffered passed away in about half an hour, and never returned.

September 26th. Temperature: morning, 98.4°; evening, 98°. Pulse: morning, 112; evening, 96. Urine contained a trace of albumen, which has persisted till the present (October 1st). Patient very cheerful. Appetite good. Tonsils nearly clean; a little thin membrane on both fauces.

September 27th. Temperature: morning, 98.4°; evening, 98°. Pulse: morning, 88; evening, 96. Little membrane on fauces strongly adherent. Tonsils quite clean. Throat raw and sore, bleeding when swabbed. Patient bright and cheerful.

September 30th. Throat quite clean today for first time. Temperature subnormal. Still a trace of albumen in urine. Patient very bright and hungry, though she has taken plenty of nourishment throughout.

REMARKS.—The source of infection in these cases was undoubtedly a previous fatal case which had occurred in the same house five weeks before. Case 1 sickened only five days after the family returned home from the country, and I discovered that a screen which had been used to form part of a tent-bed for the earlier case had been removed to the drawing-room without disinfection, for fear the sulphur should blacken the gilt. The sanitary arrangements of the house were very good, and, with the single exception enumerated, disinfection had been very thoroughly carried out. The cause of the earlier fatal case, I was told, could not be discovered. There were no animals kept in the house, but I do not know that the milk supply and laundry were investigated.

With regard to the effect of the antitoxin, these cases cannot be considered conclusive, as in both improvement had set in before its administration, and the same remedies were continued afterward; but the mother had no doubt as to the feeling of relief and *bien-être* which followed the injection, and the child seemed

brighter almost immediately. No local reaction took place in either case at the site of injection.

No conclusions as to dose can be deduced, as in each case I injected all I could obtain, namely, mxx. The paraffin paint seemed to directly affect the membrane, and the nurses told me that the patient used to ask for it before it was due on account of the relief afforded. No cultures were made from the throats, but cover-glass preparations from the membrane showed abundant bacilli, with streptococci, staphylococci and micrococci.

Mr. Henry G. Biddle (Broadstairs) reports a severe case of diphtheria which was successfully treated by injections of antitoxin. On July 23d I was called to see G. A., aged 34. He had complained of sore throat and had felt very ill since July 15th, and had kept to his bed since July 20th. He appeared very ill. Temperature, 101°; pulse, 130. Tongue very foul. Glands much enlarged. Tonsils greatly swollen, nearly meeting in middle line and partly covered by characteristic gray membrane. There was severe headache and the urine contained albumen. Iron and chlorate of potash was given and the fauces frequently dusted with sublimed sulphur. The following day, July 24th, the patient's condition was unchanged.

On July 25th I injected 2½ c.c. of Aronson's antitoxin solution. Temperature rose to 103° and patient became very delirious and violent toward evening.

On the 26th he was still very delirious. Temperature fell to 99° in morning, 101° in evening; 2½ c.c. of the solution injected.

On the 27th the throat was decidedly better. The membrane was beginning to get loose. He was still very delirious.

On the 28th he slept for six hours and woke up quite conscious. Temperature, 100°. Membrane coming away.

From this date the patient made an uninterrupted recovery. He got up on August 2d. Urine was then free from albumen. I have had him under my observation until the present time, and he has never had any sequelæ, no loss of knee-jerk or symptoms of nerve degeneration.

Dr. J. Grant Bride, late Medical Officer of Health, Runcorn Rural Entire District, writes:

Dr. Trevor Fowler's suggestion that the dose of antitoxin, and also that the indi-

cations for its repetition, should be definitely stated, is deserving of much attention. At the same time there would be much difficulty, I think, in finding the range and laying down rules for the employment of this recent addition to our therapeutic arsenal. It is comforting to the mind that no ill-effects have been recorded against the free use of antitoxin; therefore I would inject mv in the case of a child aged 1 year and increase it by mj for each year above that age up to 16; the dose for it and up to 20 would be mxx. In severe attacks the dose might be increased and repeated after an interval of eight to ten hours. On the other hand, good results are obtained from small doses in mild cases, but they require to be repeated, whereas a large dose (from 15 to 20 minims) did its work thoroughly without need of repetition. The following cases will support this conclusion:

CASE I.—M. H., aged 64, who enjoys robust health, stout and with a florid complexion, was first seen on August 13th. She was then sallow and felt ill and exhausted. The throat was congested and painful, with a small patch of membrane on each tonsil. There was cough and difficulty in breathing. The temperature was 99.2°, the pulse 78. I ordered a mixture of perchloride of iron and chlorate of potassium and locally used salicylate of sodium.

August 14th. She had not slept much during the night. A dense membrane had covered the pharynx and fauces. The temperature at 10 A.M. was 104.2° F., at 4 P.M. 104.5°; the pulse 122. I had obtained a supply of Schering's antitoxin from Messrs. Allen & Hanburys and injected mxj. A lactic acid spray was used to the throat. She slept ten minutes after this was done and did not awake till 10.30 P.M., when her temperature was 102.8°; the pulse was 112. She had perspired very freely and now took food well; again slept until 5 A.M., took food and slept until 11 A.M. The temperature 102.3°, the pulse 100.

At 9 P.M. on August 15th the temperature was 103.2°, the pulse 126. Some fragments of membrane had been coughed up. The patient did not feel so well. Antitoxin mxvj was injected. She again slept soundly and perspired freely during the greater part of the night.

At 9 A.M. on August 16th her temper-



ature was 99.2° and at 4 P.M. 97.8°. The throat was clearing rapidly and her strength was, she declared, as good as it ever had been. Recovery went on rapidly. The urine was free from albumen.

CASE II.—D. G., aged 6 years, a delicate girl with mitral stenosis, was first seen on August 31st. The fauces and soft palate were inflamed and the tonsils and pharynx were covered with membrane. She complained of pain in swallowing. There was difficult breathing and stridor. The temperature was 104.8° F., the pulse 126 at 9 P.M., when I injected mxj of antitoxin. During the night she slept restlessly, but her breathing had become easier as the morning advanced.

September 1st. There was less stridor. The temperature was 102.4°, the pulse 114. She had taken food freely. The membrane on the palate was now curled under at its margins and had a shriveled appearance but a firm central attachment still. At 2 P.M. the temperature was 103.2°, the pulse 116. Antitoxin mxv was injected, after which she slept several hours, but was still restless.

On September 2d the temperature was 100.3° at 10 A.M., the pulse 84. Breathing was easier, stridor absent. The skin was acting freely. The membrane came away in large pieces during the day.

On September 3d the breathing again became difficult, stridor returned and the temperature rose to 102.5°. Antitoxin mxviiij was injected. In ten hours the temperature had fallen to 98°, the pulse was 74. Membrane still continued to come away from the pharynx, naso-pharynx, etc., and the child continued to improve without further incident, except the presence in the urine of a small quantity of albumen.

Dr. D. Watkin Hughes (Wymondham) writes:

During the present severe epidemic of diphtheria at Barnham Broom, Norfolk, I have attended forty cases. I treated the first thirty with the usual remedies, namely, tinct. ferri sesquichl. and inhalations of sulphurous acid, iodine, carbolic acid, etc. With well-trained nurses, who most carefully attended to the patients, I lost ten out of the thirty.

For the last ten cases, some of which were very severe, I used Aronson's "Heilserum diphtheria antitoxin" (E. Schering) with marked success, injecting from mxij

to xxij. The improvement was rapid and in most cases similar. On the second day after the injection the temperature rose to 103° or 104° F. On the third day it suddenly dropped to subnormal. The membrane shriveled up and peeled off in masses, leaving a raw surface, and from that time all these patients made rapid recoveries. In no case had I to repeat the injection.

The *British Medical Journal*, in the editorial notes, says:

To obtain the best results, experience already accumulated proves that the treatment must be adopted at an early stage of the disease; but at the present time, unfortunately, there is considerable difficulty in obtaining a sufficient supply of the serum. In France its preparation on a large scale has been undertaken by the Pasteur Institute, and it is hoped that in a couple of months' time the supply will be sufficient for the needs of France. The British Institute of Preventive Medicine expects shortly to be in a position to supply a considerable quantity. The treatment, however, is rapidly passing out of the experimental stage, and in the case of a disease so murderous as diphtheria, which produces annually so fearful a mortality, especially among children, the public may well look to the State to take steps to insure a constant and adequate supply of the remedy at a reasonable cost. Professor Behring, in an address before the German Naturalists' Society at Vienna, stated that in Germany and Austria alone the mortality from diphtheria might be estimated to be about 2,000,000 in every ten years. The serum treatment would reduce this high mortality, amounting to over fifty per cent. of the persons attacked, to ten per cent., and if employed in the early stage to five per cent. "In other words," he added, "about 1,500,000 lives may be saved every ten years, but of course the serum must be obtainable in large quantities. This is not now the case and will not be the case until the State takes the matter in hand and prepares it at the public cost." The mode in which the serum is obtained at the Pasteur Institute is as follows: The animals which are to furnish the antitoxin serum are rendered immune by the injection under certain precautions of the toxin of diphtheria. This toxin is formed when the virulent bacillus is grown in broth, and in practice

the rate at which it is produced is increased by drawing a current of air through the culture liquid. After three or four weeks the culture is sufficiently rich in toxin to be used. The animals employed are horses in good health and previously tested by the injection of mallein to prove that they are free from glanders. The culture, filtered through a porcelain filter, yields a clear liquid, with which the horse is inoculated by injection under the skin. Gradually, by repeated injections over a period of two or three months, the horse is brought into a condition in which its serum possesses very high antitoxic properties. The animal

does not suffer in health at all, or only to a very slight degree. The efficacy of its serum having been ascertained by a test experiment on a guinea-pig, the animal is bled. It suffers little from this operation, and it is possible, if necessary, to bleed it again in two or three weeks, but it is advisable in the interval to strengthen its immunity by some further injections of the toxin. The animals used are cab horses, sound in constitution but broken down in limb, who after inoculation live a life of ease and luxury, varied by a periodical phlebotomy, such as our grandfathers submitted to voluntarily two or three times a year.

## SOCIETY REPORTS.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Meeting of September 26, 1894.*

#### PROPHYLAXIS IN CHURCHES NEEDED BY THE ADOPTION OF INDIVIDUAL COM- MUNION CHALICES OR CUPS.

By Dr. Howard S. Anders. See page 493 of *THE MEDICAL AND SURGICAL REPORTER* for October 13, 1894.

#### DISCUSSION.

DR. LOUIS J. LAUTENBACH: I could report a case of syphilitic retinal hemorrhage in a priest, who claims to have contracted a sore in the mouth in the manner indicated by Dr. Anders. Another similar case, concerning the origin of which the history is more clear, has occurred in my practice.

DR. WILLIAM S. STEWART: In the Catholic Church I understand that the congregation do not drink the wine, but that they eat the wafer and the priest drinks the wine.

DR. JOHN C. DA COSTA: I can sympathize with Dr. Anders, and indorse much what he has said, but question whether his ideas are practicable. Let us take a few of the leading religious bodies. In the Roman Catholic Church, I am told that the priests alone partake of the wine; if so, there is no risk of contagion and no need of more than one cup. In the Pres-

byterian Church the people remain in their seats, and the four elders hand around the bread and wine. Now imagine 1,000 partaking—and a separate glass for each; let each glass occupy only two inches square space, and you would need a table of 28 square feet to hold the glasses alone; or, with a Baptist church in Louisville that I know of with a communion of 2,500, a table space of 69½ square feet would be needed.

In the Episcopal Church the people kneel at the chancel rail, and the bread and wine are handed to the people by the minister. Now imagine not 1,000, but 250 separate glasses, collecting them again, and at the end draining them and himself drinking what remains, for the rubric commands that "the minister and communicants shall, after the blessing, reverently eat and drink the same" (bread and wine). It would turn a solemn ceremony into a farce.

Next, as to the risk of contagion, take the diseases in the order the doctor mentions. A person with syphilis is scarcely the one you would find going to the communion. One with diphtheria would be too sick, as would also one with tonsillitis or typhoid. Pneumonia would scarcely

be conveyed. If the doctor thinks only of unfermented grape juice, there might be some risk, but with wine such as is ordinarily used, very little, for the alcohol in the wine is in itself a good germicide.

DR. THOMAS J. MAYS: I am in sympathy with some of the suggestions of Dr. Anders. I can well see why such diseases as typhoid and typhus fever, diphtheria, syphilis, etc., may be so transmitted, but I do not believe that phthisis can be communicated in this manner. At least, before the assertions of the reader can be established, he ought to show some relation between his conclusions and his premises—that those who partake of the communion cup are more liable to phthisis than those who do not. A great deal of loose thinking is being done on this subject. I do not see why, in addition to their natural affliction, this class of sufferers should be compelled to bear the cross of a new and artificial opprobrium. They have already suffered enough. I admit that facts to prove the correctness or falsity of the position of the reader of this paper are not easy to obtain, but as possible evidence that it is not correct, I would state that it is well to remember that phthisis is more prevalent among those of our Indians who have just come in contact with our frontier civilization than it is among those who have lived a more civilized life for many years in the interior of the States of Michigan, Wisconsin, and New York. The latter being under the influence of missionaries and the Church, and observing the rites of the same, they should be more liable to this disease than the former, if the communion cup produced any special havoc in this direction, provided, of course, that other conditions are alike. I hope that Dr. Anders holds statistics by which he can prove the accuracy of his contention in this respect.

DR. JOHN AULDE: I have long been convinced that the use of the common communion cup is productive of disease. Dr. Probst, Secretary of the Ohio State Board of Health, about two years ago delivered an address to a body of clergymen, calling their attention to the unsanitary features of this practice, and the investigation at Rochester, N. Y., seems to have established the danger of the cup. If the one disease, diphtheria, can be communicated in this way, it is enough to condemn the practice without further discussion.

Dr. Thomas J. Mays read a paper on  
ICE-COLD APPLICATIONS IN ACUTE PNEUMONIA.

(See page 535.)

#### DISCUSSION.

DR. ALFRED STENGEL: I disagree entirely from Dr. Mays as regards the heart in pneumonia. I have seen a considerable deal of pneumonia clinically, but a great deal more pathologically. I have not made a post mortem in pneumonia in which I did not find some cardiac thrombosis. I have seen the thrombosis of such a character that it was difficult to imagine how any circulation could be carried on during the last moments of life. Of course, in some cases it is difficult to determine whether the thrombi are ante mortem or post mortem, but in most cases the manifestly ante-mortem character of the thrombi shows that the heart must have been seriously embarrassed. It is certainly the opinion of most authorities that the heart is seriously embarrassed, and post-mortem experiences would indicate the same thing.

DR. J. M. ANDERS: I was somewhat astonished to hear the reader of the paper take the position that the fever in pneumonia was in all probability the result of the localized inflammation. The localized inflammation may, to some extent, show the degree of infection, but its presence does not prove that this is not an infectious disease. I should incline to the view that the temperature is an indication of the severity of the type of infection, and not of the severity of the local inflammation.

I am always glad to hear a paper on the use of cold. Cold, whether locally or generally applied, can have but one effect in this disease, and that favorable. If applied locally, as suggested, it would undoubtedly mitigate to some extent the local inflammation, but it could not in an acute infectious disease control to any extent the course of the ailment. I do not believe that there is anything that will entirely control the course and symptoms of pneumonia, simply because it is an acute, infectious, self-limited disease. The local use of cold cannot meet all the indications in a case of pneumonia. It is well enough in a mild case, where the respiration is ordinarily good, the temperature only moderately high, and there are no nervous

symptoms, but in a severe case the cold or tepid bath meets many more indications and is more efficacious. One of the reasons for the bad respiration is the presence of pain, hence this should be gotten rid of early. The local application of cold does not influence the respiration of a patient suffering with pneumonia, in my experience; whereas the cool or tepid bath stimulates to deeper respiration and assists expectoration. Its effect on the nervous system cannot be over-estimated. I shall not go into the subject in detail. It is scarcely necessary; but it is bad practice, I think, to rely upon the local use of cold, which meets but a single indication, when we have at hand the cool or tepid bath, which meets so many and such as are of vastly more importance than the mere combating of local inflammation to the welfare of the patient.

DR. B. F. STAHL: I am interested in the use of cold in the treatment of pneumonia, and especially so after considerable experience with application of baths in the treatment of typhoid during the past few months. I recognize that the general application of cold or cool water is productive of rest and of better respiration, and it has a general tranquilizing influence by its reduction of temperature. I am led to anticipate that its application in pneumonia will be advantageous. I freely admit, however, that I have had no direct experience in the use of local application of cold in pneumonia. I am ready to try it in any case where it may be applied generally or in the form of a bath, and I believe that we may expect decided advantages from its use.

DR. LAWRENCE WOLFF: I have had some experience with the use of cold in pneumonia. A couple of years ago I employed the cold bath in the treatment of pneumonia in my hospital cases, but the results were not as favorable as with other methods. I have used the local application of cold with more advantage. Dr. Da Costa taught many years ago that the ice poultice was one of the best applications, and relieved pain better and stimulated respiration perhaps better than any other application. It has been productive of great good in my hands.

DR. JOHN AULDE: My object in speaking is rather to make a suggestion to the reader of the paper in order to establish some physiological basis which may be of

further value as indicating the effect which cold applications produce in pneumonia. The empirical deduction as to the value of ice in pneumonia seems to be fairly well founded, and would have been accepted ten or five years ago as very good evidence, but at the present time it seems to me that something more is demanded. It is hardly worth while nowadays to speak of "vital force," because we can go closer to life than that term would indicate.

The use of the cold bath in typhoid fever has been referred to and its virtues highly lauded. If the cold bath is useful in typhoid fever we should be able to make some observations which would give us some exact idea of the effect which it produces. It would surprise you if I were to prophesy that within two or three years some one would come before this society and advocate the use of massage in the treatment of pneumonia. It is only a few months since that a paper was published by Dr. Mitchell, of this city, referring to the wonderful effect of massage in anæmia, showing that it increased the number of red and white corpuscles.

In pneumonia we have rather a peculiar condition, different from that seen in typhoid fever. Dr. Osler has made some observations on the changes in the blood in this disease. He found that shortly after the leucocytes began to increase in number there was a defervescence, and a favorable change took place. If the number of leucocytes is large, that is, if a general leucocytosis takes place, he is able to say that the patient will recover, even if the temperature has not changed. In typhoid fever there is no leucocytosis, but it seems probable that in typhoid fever the cold bath is sufficient to produce an artificial leucocytosis. Consequently, if the cold bath is valuable in that disease it seems probable that it may produce the same effect in pneumonia, where there is a natural tendency to leucocytosis.

I would suggest that the blood be examined in cases where ice is applied. If it can be shown that the effect of cold is to increase the number of leucocytes, we shall have a definite basis on which to rest our conclusions.

THE PRESIDENT, DR. DE FOREST WIL-  
LARD: I would ask Dr. Aulde if Dr. Mitchell did not subsequently explain the increase in the number of corpuscles found, not by an actual increase in the



number of blood-disks, but by the fact that corpuscles lurking along the circumference of the vessels were brought into the current by the massage, just as the logs along the banks of a lumbering stream may be forced into the current?

DR. AULDE: Of course, we are not assuming that there is an increase in the number of corpuscles *de novo*. If those out of the current are brought into the stream by the contraction of the vessels, it is substantially the same thing. This brings out the leucocytes that are instrumental in maintaining the antiseptic condition of the blood, and with the contraction of the blood-vessels, produced by the cold, the red corpuscles carry oxygen to the tissues and take away carbonic acid and other waste products.

DR. MAYS: Dr. Aulde seems to lay great stress on the fact that leucocytes are present in pneumonia. Leucocytosis is present in many conditions, both normal and pathological. Every time you take a drink of beer, or eat a beefsteak, or take bitters, leucocytogenesis is increased. I do not think that the fact that the number of leucocytes is increased is of any great advantage in the successful treatment of pneumonia.

Dr. Stengel referred to the presence of thrombi in the pulmonary blood-vessels of pneumonia, and I think I must have read my paper to poor advantage if I have not succeeded in making plain my belief in the existence of this condition. Indeed, I invoke the high authority of Dr. Fox to show this. I think my intention has been misconceived by Dr. Stengel. The point that I tried to make clear was that this thrombosis leads many practitioners to try to whip up the heart to perform the impossible task of pumping blood through this thrombotic condition of the vessels in the lungs. They lose sight of the fact that the foundation of this thrombosis exists primarily in the lungs. They do not pay any attention to its removal in their treatment. The patient dies, and they believe that he dies because the heart has failed to perform its duty, while in truth death is caused by pulmonary failure.

I know that Dr. Anders has made use of cold, and I think that his results were rather favorable. He speaks of the fever as an indication of the extent of the infection. If by infection he means the amount of disease in the lung, I can hardly

indorse the statement. I have in some of my cases seen high fever where there was small amount of infiltration. In one case particularly, seen three years ago, the amount of infiltration at the base of one lung was so slight as to be detected with difficulty, yet the patient had a temperature of 106° and 106.5°, and died in eight days. I did not apply ice in that case, for I did not then know its great value. I wish that I had, for I believe I would have saved the life of a dear friend. I infer from what Dr. Anders has said that he has not applied ice assiduously and persistently, for had he done so I think that he would not have said that he could not control the respiration in pneumonia by the application of cold. I expect in every case where ice is applied to have the temperature fall, the pulse fall, and the respirations fall. I do not think that the use of tepid or even cold baths is of service in pneumonia. The fever in pneumonia is different from that in typhoid fever. It does not yield to general cold as does the fever in typhoid. I think that if the prejudice against the application of ice would be removed, this treatment would be more thoroughly tried. I think that it will be found to be the most applicable and efficacious treatment for pneumonia. This has not only been my experience, but also that of others. It has been almost universally successful; in seventy-four cases there having been only two deaths. I do not say that this proportion will be maintained, but the treatment certainly has a great influence upon the local process in the lung. It circumscribes and aborts the exudation in the lung, and this is as much as can be expected from any measure.

Dr. Louis J. Lautenbach read an article entitled

MESSAGE VERSUS REMOVAL OF THE SOUND-  
CONDUCTING APPARATUS IN NON-  
SUPPURATIVE CASES OF DIS-  
EASE OF THE EAR.

(See page 538.)

#### DISCUSSION.

DR. L. J. HAMMOND: The experience of Dr. Lautenbach does not accord with that of Drs. Knapp and Dench, of New York, as given at the meeting in Washington. They seemed to think that the massage treatment did not give the results that

were expected from it. The experience of these and other gentlemen has been that where there is a marked retraction with great thickening, the results are not as good as those obtained by the ordinary methods with the Politzer bag and Siegle speculum. The cases that were at all benefited were the mild ones, that would have shown the same result by the routine treatment.

Dr. Lautenbach laid great stress upon the bones as a conducting medium. There have been a number of cases where the malleus and incus have been entirely destroyed with the membrane, and yet hearing was perfect. I recall three such cases. I think that the bones as a whole have very little to do with hearing, except the stapes. I think that the healing depends largely upon the condition of the foot-plate of the stapes over the oval window. If that be markedly bound down, I do not see how massage alone will be of great value. When added to the general routine treatment it may serve a good purpose.

Reference was made to permanent paralysis following operative treatment. I have done the operation many times, principally for suppurative conditions, and have had temporary paralysis only follow. All operations involving the tympanic attic have been followed by temporary paralysis, and the general opinion is that it is impossible to prevent it in these operations, owing to the close proximity of the facial nerve. It, however, invariably subsides without treatment in a few weeks.

DR. E. LARUE VANSANT: I have had considerable experience with this massage, and in non-suppurative cases have been fairly well pleased with it. Certain cases, however, are not improved, and this may be explained by the pathological condition present. Where the adhesions are not great the case will improve. It may truly be said that they improve almost as well under the use of the catheter and Politzer bag. Where there are marked adhesions binding the drum-head down to the promontory, and probably adhesions between the ossicles, the massage treatment will not break these adhesions, and may not even stretch them. What it will do will be to puff out that part of the membrane not bound down by the adhesions. I have for some time made use of Delstanche masseur and with it used Siegle's speculum, and in this way I can easily see when

by increased pressure certain parts of the membrane are made to bulge. Indeed, you can almost at once give a prognosis as to whether or not massage will do good.

In non-suppurative cases I think that it is not wise to recommend removal of the drum-head and ossicles for the permanent improvement of hearing. For the intense tinnitus or vertigo it may be recommended in certain cases. It is more preferable than massage for intense tinnitus with vertigo. Lately I have been treating these cases of non-suppurative otitis media with marked retraction by a combination method. I have first made an incision in the drum-head, and then, taking the little trowel-shaped knife used in removing the ossicles, have attempted to cut through some of the bands in the middle ear, particularly toward the promontory, and then followed this treatment by massage so as to prevent the re-formation of adhesions while healing is going on. I think that my results have been better than with either method alone.

DR. GEORGE C. STOUT: I think that massage and treatment of that kind should be instituted before any operation is recommended and that this is the general practice. Operation should be reserved for a last resort, and, so far as I can learn, this is the rule with all modern aurists.

The instruments which make a noise synchronous with the massage are as yet considered a doubtful improvement over noiseless massage.

DR. LAUTENBACH: I am glad to learn that so many have used massage, but unfortunately most of the methods in use have been crude. I have used Siegle's speculum as a masseur for thirteen years; but this is not the method that I referred to in my paper. I refer to regular massage, with a definite amount of exhaust used, a definite number of times a minute, studying your case until you find the amount of motion that you desire, and regulating it accordingly. When Dr. Knapp and Dr. Dench referred to massage they could not have spoken of this method, as they knew not of its use. They have to-day no such instrument in their offices. I understand they both have the vibrometer and the vibrophone, but not this machine. The methods in use outside of the Siegle speculum and the Delstanche apparatus have been methods of phono-massage and not pneumo-mas-

sage. The phono-massage methods have their use not so much in the process of loosening up the sound-conducting apparatus as in stimulating that part of the nervous structures of the labyrinth lying close to the stapes. We are now learning that in plastic and catarrhal disease of the middle ear, the proximal endings of the auditory curve—those nearest the stapes—are affected often early in the disease. Often even when the hearing to the watch is quite good the patient has tinnitus. This indicates that the labyrinthine structures have been affected early. In those cases where there is loss of hearing without tinnitus, phono-massage will be of no service. The main advantage to be derived from phono-massage is in the dissipation of tinnitus. It cannot restore the lost hearing.

Speaking of the necessity of a sound-conducting apparatus, I think that it is a self-evident proposition that the sound-conducting apparatus so carefully constructed and mechanically so perfect would not be there if it were not needed. I do not think that it would have received so much attention from Helmholtz if it did not have its use. I admit that I have taken out the stirrup, and the patient could still hear; but I also know that the patient did not hear perfectly.

I do not mean to advocate massage separate from all other treatment of the ear. I do not think that any case of ear disease is to be treated by massage alone. In my paper I presumed that all other necessary treatment would be thoroughly carried out. One who tries to treat disease by one method without paying attention to the general as well as the local conditions present utterly fails to comprehend the science of medicine.

Speaking of severe cases, I might refer to a lady, aged thirty-four years, a school-teacher, who since early childhood has been deficient in hearing. For eleven or twelve years she has been constantly under treatment and constantly getting worse. Five or six weeks ago a physician advised her that an ossicle operation was the only thing to be done. Another physician expressed the same opinion. I saw her Monday two weeks ago, and since then she has been treated in the ordinary way and with powerful pneumo-massage to the ear. This morning she told me that she could hear her clock at two or three inches from the

to-be-operated ear, a thing that she has not done for six years. In the ear the membrane is adherent to the promontory, but has been detached mechanically by the two weeks' treatment.

The massage method does separate the drum-head from the promontory, and it is only a question of time when the adhesions will be removed. The Delstanche masseur, while a good instrument in its way, is not the one that I should prefer in these cases. You cannot get with it the precision of motion and persistency that you desire. You cannot if necessary keep it up for one hour at a time. You want a method that will give you an easily regulated persistent movement of the ossicles and be able to use it as long as you desire, anywhere from five minutes to an hour or even more.

#### The Early Diagnosis of Phthisis.

In a paper read at the International Congress, M. Bernheim, of Paris, calls attention to the following points, which may be advantageously made use of in addition to the usual clinical symptoms of beginning pulmonary tuberculosis: "1. The examination of the secretions (urine, excess of phosphates and diminution of urea; blood, changes in configuration of the corpuscles; expectoration, presence [rare] of bacilli; urine ditto). 2. The inoculation of the patient's blood into an animal. 3. The examination of the lymphatic system (in many cases of commencing phthisis the glands are enlarged). 4. The constant hypertrophy of the spleen. 5. The improvement induced by the inoculation of these *débutants* in phthisis with immunized serum, the condition of other patients not being ameliorated by serotherapy. Of course, the association of several of the above signs is necessary before the diagnosis can be affirmed; but the early and constant enlargement of the spleen is a sign to which attention has not been called sufficiently, and on that ground I deem it worthy of mention to-day."—*Indian Medical Record*.

#### The Ruling Passion.

Doctor—A careful diagnosis of your case leaves no doubt that you have stone in the bladder.

Solomon Isaacstein—Doctor, do you tinks it vas a diamond?



## CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISON J. MORRIS, M.D., AND SAMUEL M. WILSON, M.D.

BUFFALO MEDICAL AND SURGICAL JOURNAL  
for October. Dr. Wm. C. Krauss discusses  
the

## "Treatment of Neurasthenia."

He gives among the prominent symptoms of this disorder: Moroseness, fault finding, dull aching in the occiput or at the vertex, and in the lumbar spinal region. Following these come tachycardia and palpitation, sinking spells, hot flushes, profuse perspirations on the face and extremities, indigestion, short attacks of jaundice, scanty secretion of urine of high specific gravity, temporary sexual impotence. Great stress is laid on the appearance in all cases, with vasomotor symptoms, of a dilatation of one pupil with a contraction of its fellow. The author thinks this is due to derangement of the sympathetic nerve.

For treatment the cases are subdivided into (1) those with a lithæmic element; (2) those without a lithæmic element; (3) those with marked vasomotor disturbance.

After trying to find and remove the cause of the disorder the asthenic cases of the first two divisions are ordered to take, before rising, two ounces of strong, black coffee, and in a half hour take a tepid sponge bath for about five minutes, then dress and take breakfast. The plethoric cases receive, instead of this, one-half ounce or one ounce of a saline cathartic followed by a cold bath, and if possible a cold plunge. Just before retiring a warm general bath is taken.

For from five to eight minutes a galvanic current is applied with the electrodes on the sacrum and the neck, then the positive pole is applied to the forehead and a weaker current turned on, and, finally, with the electrodes to the hands as strong a faradic current is applied as the patient can bear. This treatment is given once, twice, or thrice weekly; the severe cases receiving treatment three times weekly.

Massage may be given also, and the lithæmic cases receive after meals one to three tablets, each containing lithium carbonate, 3 grains; phosphate of iron,  $\frac{1}{2}$  grain; extract of nux vomica, 1-9 grain; arseniate of soda, 1-27 grain. The author claims that patients who seem unable to take iron in other forms use this tablet with benefit and that it acts well also in cases of chronic rheumatism.

Non-lithæmic cases are given bromides, hyoseyamus, tincture of nux vomica, albuminate of iron, phosphoric acid and pepsin. Trional in five or ten grain doses is the favorite hypnotic.

Cases with vasomotor disturbances have been intractable and unsatisfactory.

Dr. Frank J. Thornbury describes some

## Interesting Dermatological Cases

seen in Kaposi's clinic.

A number of diseases rarely recognized

elsewhere, if seen, are not uncommon; prurigo is one of these.

The first case reported was a man who developed pemphigus while under treatment for lichen ruber planus. There is said to be no similar case on record.

One or more cases of pemphigus may always be found in the wards. The treatment includes a water bath of from two to five hours daily, the treatment of Hebra for variola.

A disease more common in Austria-Hungary than elsewhere is rhinoscleroma. This commences on the mucous membrane near the ala nasi and slowly extends until the pharynx is involved. Cellular infiltration with increased vascularity takes place, and owing to increase of connective tissue the part becomes pale and hard and the function is interfered with.

Contraction of the nostrils and involvement of the larynx cause snoring and give the voice a harsh, nasal sound. A case may continue for ten or twenty years.

The bacillic cause of this disease has been isolated, but no known treatment is very effective.

A well marked case of ichthyosis hystrix was seen, in which the patient was so covered with horny spines as to resemble a porcupine.

Another peculiar case was one of psoriasis, in which the interpapillary hypertrophy had gone to such an extent as to cause homors varying in size from that of an almond to that of a walnut. These subsided promptly under doses of arsenic.

Kaposi's favorite local application is a ten per cent. solution of gallacetophenone, and this is painted every few days over the affected areas only.

Kaposi, the author says, treats all new cases of lupus and all newly affected areas of old cases by a thorough scraping with the sharp spoon; sometimes using cocaine, sometimes not. Some cauterizant, such as pyrogallol ointment, is then applied. Pick, of Prague, on the contrary, uses with uniform success an injection of about 1-180 grain of tuberculin. This results in a breaking down of the affected tissue and healing by granulation.

A translation by Mr. L. G. Sellstedt of an article by Dr. E. S. Perman on Stygia describes a case of

## Sarcoma of the Tongue Treated With Pyokotanolin.

The growth involved more than half of the root of the tongue, was increasing in size, and caused considerable discomfort. Excision of the tongue was refused, so a preliminary tracheotomy was done, and subsequently injections of one to two grammes of a 1-500 solution of pyokotanolin were made into the tissue near the growth.

After five injections the growth appeared



diminished, and later the pedunculated portion was excised by galvano-cautery, and the next day a small mass was found to have sprung up at one side and finally this also was excised.

The treatment during this time was continued, and up to the present time (the latter

part of April) no return of the disease was apparent.

Other papers in this issue are "The Causes of Hernia With a New Theory," by Dr. Byron Robinson; "Hypertrophy of the Follicular Glands at the Base of the Tongue," by Dr. Horace Clark.

## PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

### MEDICINE

#### Veratrum Viride in Catarrhal Pneumonia in Children.

Dr. F. B. Sutliff, Sacramento, Cal., says, in a paper read before the Sacramento Society for Medical Improvement, after reviewing the treatment of prominent writers, that he thinks there is no remedy that is more of a specific for any disease than veratrum viride in catarrhal pneumonia in children. He does not believe veratrum viride has anything like the same influence on other forms of pneumonia, and thinks to this is probably due the fact that it has at times received such unlimited praise, and at others such condemnation.

The tincture is given in small (a fraction of a minim) and oft-repeated doses until the pulse is reduced and respiration is lowered.

The following case is reported: Child two years old with breathing about sixty per minute; pulse very fast; cannot sleep nor rest on account of constant cough. Has been sick for one night only, but there were coarse rales over both lungs. He was getting blue and the case looked like a bad one. Ordered half-minim doses of tincture of veratrum viride combined with sweet spirits of niter and syrup yerba santa, the dose to be repeated hourly. In a few hours the good effect was manifest, in twelve hours the child was very much better, and the next day it had changed to an ordinary case and soon went on to convalescence.—*Denver Medical Times*.

#### Indicanuria as a Symptom of Latent Suppuration.

Indican, in small quantities, is a normal constituent of healthy urine, but under certain circumstances the amount is so large as to merit the designation of indicanuria. This condition is usually dependent on decomposition of the intestinal contents consequent on constipation; but it has recently been discovered in the urine in connection with the formation of pus in such quantities as to authorize the belief that its presence may afford an important indication of latent suppuration. The first thing, of course, is to eliminate the intestinal tract as the source of the indicanuria, and this is done by the administration of naphthol, bismuth, or other disinfectant. Should chemical analysis still

reveal the persistence of the indicanuria, there is reason to suspect suppuration. In several cases observed by Dr. Keilmann, of Dorpat, the information thus obtained led to a successful search being made for foci of suppuration, the indicanuria subsiding as soon as the pus was evacuated. The analysis is simple enough to admit of its application by every one, which is more than can be affirmed of many of the tests proposed by laboratory physiologists. Equal quantities of urine and strong hydrochloric acid are shaken together in a test-tube, and a little chloroform is added. In the presence of indican this becomes blue from the indigo liberated by the decomposition of the indican, and falls to the bottom of the tube. A fair idea can thus be readily obtained of the amount of indican present, but for the purposes of diagnosis it is necessary to resort to a quantitative analysis. This does not involve much additional trouble, advantage being taken of the bleaching powers of hypochlorite of calcium, a standardized solution of this salt being dropped into the above mixture until complete decoloration results. Three or four drops of a five per cent. solution may suffice for this purpose, but in some cases as much as fifty, or even eighty, drops may be required.—*Medical Press and Circular*.

#### The Falkenstein Treatment of Pulmonary Tuberculosis.

We hear a good deal about the open-air treatment of pulmonary tuberculosis, and the attempts to raise this method into a "system," as practiced at Falkenstein, in the Taunus Mountains in Germany, are worthy of all praise, so far as they demonstrate to the world at large—which is not very believing in such matters—that tuberculous patients are all the better for open windows. At the establishments at Falkenstein, in addition to good food, cleanliness, perfect sanitation and most careful measures to prevent the diffusion of tuberculous dust, a definite attempt is made to enable the patients to pass their whole time in the open air. Plenty of rugs and clothing are allowed, and the rooms and corridors are plentifully supplied with heating apparatus; but, except when actually dressing or undressing, the windows of the bedrooms must be open day and night, in all weathers and in all seasons, and during the day the

patients dwell in the corridors or summer-houses or altogether out of doors. The results are said to be satisfactory. One point is of much interest. The number of patients whom it is necessary to confine to their rooms hardly varies in the different seasons, being 8.5 per cent. in the summer and 9.33 per cent. in the winter months. It seems clear, however, that a treatment of this sort, if useful at a health resort, should be equally applicable to home life, and that the lessons taught by it are as important to the healthy as to the sick. If these delicate poltrinaires can bear open windows and fresh air, so can people in ordinary health, and there can be no doubt that people would be better off in every way if they very much lessened the difference between indoors and outdoors as regards both clothing and fresh air. The lesson to be learned, however, from the Falkenstein treatment is that a certain acclimatization is required, and that what is begun must be persisted in. A man who sleeps with open windows one week and shuts them the next is sure to suffer from disorders of the air-passages.—*Medical News*.

#### Consumption at Different Ages.

The common impression based on the statements of many of the older text-books is that phthisis is especially a disease of early adult life. The statistics of death in Great Britain, probably the most complete and extensive anywhere attainable, however, indicate that this is not correct. The largest number of deaths, according to these statistics, occur in the decade from thirty-five to forty-five years of age, and that not until about sixty years of age do the number of deaths from this cause, as compared with the number of persons living, fall below the average for the period, from twenty to twenty-five. It is to be remembered, however, that the disease usually requires several years to run its course, so that infection probably occurs on the average nearly five years earlier than death.—*Phila. Polyclinic*.

#### The Action of Asparagus on the Kidney.

Three years ago Wilks sent a short communication to the *Lancet*, requesting the opinion of the profession on this subject. He therein stated that, in spite of books declaring asparagus to be a diuretic, he had observed that the very contrary was its action. Four letters came in reply, written by medical men. Three of them stated that from direct observation they had ascertained the inhibitory action of asparagus on the function of the kidneys, so that frequently only a third of the normal quantity of urine was secreted after eating this vegetable. The fourth gentleman said he had no knowledge of his own, but believed asparagus to be a diuretic, as he had always understood it to be so. The question of this vegetable's action in the economy is of little importance when it is so universally eaten and approved of, but it is one of interest in connection with the history of medicine as a science and art. In other

sciences knowledge has grown from small beginnings, so that they have a solid foundation and superstructure; but the practice of medicine has existed from the remotest ages and was born of superstition. Consequently, a large part of our advance has been by getting rid of and overthrowing error. The writer has on his shelves a "Herbal," published about a hundred years ago, describing the value of a vast number of plants which are now discarded as useless; but that a positive error, and one the very reverse of the truth, as regards the action of a well-known vegetable should still be propagated in books is a most remarkable fact and, as regards the whole subject of therapeutics, a very sad one.—*Lancet*.

#### Fournier-Syphilis in Childhood.

Most physicians and all of the laity hold the erroneous idea that syphilis in the child is always hereditary and very seldom acquired. Two points must be understood: (1) Syphilis is never acquired during childbirth, because at birth the child is already syphilitic. (2) An acquired syphilis is never dependent upon syphilis of the mother which she acquired before the child's birth, for here, again, the child is born syphilitic, although it may be latent. The positive causes of contagion are thus reduced to—

1. Nursing, by which a previously syphilitic nurse infects when she develops patches in her mouth or papules upon the nipple, or by a nurse who is herself infected by nursing a second and syphilitic child.

2. During its growth; by its mother, subsequently affected; by its father, by its attendant, especially by kissing; by other persons with whom it comes in contact.

3. Criminal attempts.

4. Inoculation by physicians or midwives, either by the hands or by instruments.

Fournier concludes that children acquire syphilis more often than is supposed.—*New York Polyclinic*.

A HUMOROUS letter in the *American Practitioner and News* cast deserved ridicule upon the animal extracts so widely advertised in the daily press, and which, to the shame of the profession, have attached to them the name of a widely known physician. The writer of the letter details his experimental attempts to grow new parts upon mutilated dogs, using for the purpose extracts from the ears, tails, legs, noses, etc., of other dogs under the names of "earine," "tailine," "legine," "noseine," and the like. By an unfortunate mixing up of the extracts he grew legs and tails of entirely different breeds from the rest of the dog with most confounding and embarrassing results, and he warns future experimenters in this line to beware of his mistakes or they may find some day that they have caused the flat nose of a full-blooded negro to grow upon some blond young lady, who might cause them to be mulcted in enormous damages in consequence of so disastrous a blunder.

### Typhoid Fever in Infancy.

Noyes (*Med. Rec.*) reports eight cases occurring in children from eleven months to three years of age, in a recent epidemic due to a contaminated milk supply. He thinks any long-continued fever, without obvious local inflammatory cause, suspicious, especially if joined with gastro-intestinal disorder; and the rose spots should be carefully looked for and the stools examined for characteristic bacilli. He urges the sterilization of all milk used for young children, and the disinfection of the stools in all cases of diarrheal nature. —*Polyclinic*.

### SURGERY.

#### Internal Hemorrhoids.

Dundore (*Mathews's Medical Quarterly*), after an exhaustive paper on this subject, concludes as follows:

1. The ligature is the safest method of operating for internal hemorrhoids, as there is less likelihood of its use being followed by hemorrhage, stricture, or ulcers.

2. The clamp and cautery cause less pain, shorter convalescence, and are less likely to be followed by retention of urine than when the ligature is used; but hemorrhage and stricture of the rectum may very often follow their improper application.

3. The practice of Whitehead's method should be limited to those cases in which the entire circumference of the anus is involved. In ordinary cases of one or more hemorrhoids it should never be used, as it is liable to be followed by severe after-effects, and at best could produce no more radical result than the clamp and cautery or ligature.

4. Simple dilatation of the sphincter, injection of carbolic acid, and Manley's method are simple palliatives, and their use is very limited.

5. There is no single operation which is available in all cases. Experience alone should suggest the most efficient method of treating each individual case. —*Therapeutic Gazette*.

### BACTERIOLOGY.

#### Oxalic Acid as a Germicide.

Potassium permanganate has long been reputed a reliable germicide in practical surgical work; and at the Johns Hopkins Hospital the routine preparation of the surgeons' hands was, after thorough washing, to have them immersed in a solution of permanganate until stained a deep red-brown. To remove the stain, they were then placed in a warm saturated solution of oxalic acid. Repeated bacteriological tests have shown that this method was very effective.

A series of experiments by Dr. Mary Sherwood (*Johns Hopkins Hospital Reports*) to test the relative germicidal powers of the two solutions, however, seems to indicate that the real germicide was the solution of oxalic acid. Using bits of surgeon's silk, dipped in cultures of *staphylococcus pyogenes*, it was

found that potassium permanganate in saturated solutions did not sterilize them, either at the room temperature or at a temperature of 45° C., by exposure of from one to ten minutes. On the other hand, oxalic acid in saturated solution, at a temperature of 40° C. to 45° C., sterilized the infected threads exposed to its action for one minute, showing the oxalic acid to be the more powerful germicide. —*Polyclinic*.

### OPHTHALMOLOGY.

#### Injury to the Eyes from a Heavy Charge of Electricity.

Rivers (*Archives of Ophthalmology*) reports the case of a man, aged 25, who received an electrical force amounting to 550 volts; the discharge of the electrical force issued from a wrench, which was on a level with his face, a loud report occurred and an intense flash of light. The patient was knocked down; vision was immediately affected; the eyelashes and eyebrows were nearly burned off, the ocular conjunctiva had the appearance as if it had been painted with a strong solution of nitrate of silver, the cornea in each eye was of the appearance of ground glass, the opaqueness being greatest at the center, vision equal to perception of light. Eleven days later there was no corneal opacity, and the vision of the right eye equaled 20-cc, and the left 20-XL. The ophthalmoscope showed the media perfectly clear, the optic discs and retinal vessels looked normal. Vision gradually improved to 3/8, although photophobia was marked, and he has to wear smoked glasses when out of doors. —*Medico-Surg. Magazine*.

### PATHOLOGY.

#### A Nomenclature for the Different Classes of Infectious Diseases.

The following classification of infectious diseases was submitted by Dr. Thomson for the consideration of the New York Academy of Medicine at its meeting held May 3, 1894, with the hope that it would serve to invite discussion on a subject of great public importance, namely, the adoption by the profession of a definite nomenclature descriptive of the various classes of infectious diseases.

1. All infectious diseases are due to the presence of their specific living micro-organisms in the body.

2. Infectious diseases are divisible into three classes, (1) the communicable, (2) the non-communicable, and (3) the septic.

3. The communicable diseases are those whose origin is from an animal body. Examples are small-pox, Asiatic cholera and tuberculosis.

4. The non-communicable infectious diseases are those whose origin is not from an animal body, but from a place or thing, examples of which are ague, yellow fever and miasmatic diseases in general.

5. The communicable diseases are divisible



into two classes, according to the ordinary modes of their communication, (1) into the contagious and (2) into the non-contagious communicable diseases. The contagious communicable diseases are those in which simple proximity to the infected with them is sufficient to communicate the infection to those susceptible to them, examples of which are typhus fever, scarlet fever, small-pox, measles, diphtheria, mumps, whooping-cough, etc. Isolation of the sick with them, therefore, is needful to prevent infection.

The non-contagious communicable diseases are those in which the communication is not by simple proximity to the sick, but through intermediate means of communication. Isolation of the sick with them, therefore, is neither needful nor effective, in comparison with measures directed against the intermediate means of the infection. Examples of these diseases are typhoid fever, Asiatic cholera and tuberculosis.

6. The septic infectious diseases are those in which the infection has gained entrance through a wound, or damage, by inflammation or otherwise, of the skin or of a mucous membrane. Examples of these are surgical infection of wounds, erysipelas, hydrophobia, tetanus, etc.

Lastly, all infectious diseases can be prevented by measures of disinfection applicable to each.—*Medical Record.*

## ARMY AND NAVY.

### CHANGES IN THE U. S. ARMY FROM OCTOBER 7, 1894, TO OCTOBER 13, 1894.

Upon abandonment of Mount Vernon Barracks, Alabama, Major Curtis E. Munn, Surgeon, is ordered to Benicia Barracks, California, relieving Captain Ogden Rafferty, Assistant Surgeon.

Captain Rafferty, on being relieved by Major Munn, is ordered to Presidio of San Francisco, California, for duty.

First Lieutenant Charles E. B. Flagg, Assistant Surgeon, relieved from duty at Presidio of San Francisco, California, and ordered to Angel Island, Cal., for duty.

Major Van Buren Hubbard, Surgeon, relieved from duty at Fort Spokane, Washington, and ordered to Fort McPherson, Georgia, for duty at that station.

Upon arrival of Major Joseph K. Corson, Surgeon, at Fort D. A. Russell, Wyoming, First Lieutenant George D. DeShon, Assistant Surgeon, will be relieved and ordered to Fort Logan, Colorado, for duty.

Upon abandonment of Fort Sully, South Dakota, Captain Alfred E. Bradley, Assistant Surgeon, is ordered to Fort Keogh, Montana, for duty.

Upon abandonment of Fort McKinney, Wyoming, First Lieutenant Henry A. Shaw, Assistant Surgeon, is ordered to Fort Niobrara, Nebraska, for duty.

Upon abandonment of Fort Bowie, Arizona, Captain Jefferson D. Poindexter, Assistant Surgeon, is ordered to Fort Riley, Kansas, for duty.

Upon abandonment of Fort Marcy, New Mexico, Major James F. Kimball, Surgeon, is ordered to Fort Wingate, New Mexico, for duty.

Upon arrival of Major Kimball at Fort Wingate, Captain C. N. B. Macauley, Assistant Surgeon, will take station at Fort Apache, Arizona, for duty, relieving Lieutenant M. W. Ireland, Assistant Surgeon.

Lieutenant Ireland, on thus being relieved, will take station at Fort Stanton, New Mexico, relieving First Lieutenant F. R. Keefer, Assistant Surgeon.

Lieutenant Keefer, on being relieved, will proceed to and take station at Washington Barracks, District of Columbia.

Upon abandonment of Fort Supply, Oklahoma Territory, Major Curtis E. Price, Surgeon, will proceed to and take station at Fort Sill, Oklahoma Territory.

First Lieutenant Isaac P. Ware, Assistant Surgeon, is relieved from duty at Fort Supply, Oklahoma Territory, and ordered to Camp Eagle Pass, Texas, for duty.

Upon arrival of Lieutenant Ware at Camp Eagle Pass, First Lieutenant Alexander N. Stark, Assistant Surgeon, will return to his proper station at Fort Sam Houston, Texas.

Upon abandonment of Fort Mackinac, Michigan, Captain E. F. Gardner, Assistant Surgeon, is ordered to Boston, Mass., for duty as attending surgeon and examiner of recruits, relieving Major M. W. Wood, Surgeon, who, on being thus relieved, will proceed to take station at Boise Barracks, Idaho, to relieve Captain William Stephenson, Assistant Surgeon.

Captain Stephenson, Assistant Surgeon, on being relieved, will proceed to and take station at Vancouver Barracks, Washington.

By direction of the Secretary of War, leave of absence for twenty-five days, to take effect upon his relief from duty in Boston, Mass., is granted Major Marshall W. Wood, Surgeon.

By direction of the Secretary of War, Captain Francis J. Ives, Assistant Surgeon, having proceeded with troops to Fort Ethan Allen, Vermont, is relieved from further duty at Fort Sheridan, Illinois, and will remain on duty at Fort Ethan Allen until the arrival thereof of Captain Aaron H. Appel, Assistant Surgeon, when he will report in person to the commanding officer Plattsburgh Barracks, New York, under the requirements of par. 10, S. O. 24, A. G. O., September 20, 1894.

By direction of the Acting Secretary of War, Captain George E. Bushnell, Assistant Surgeon, will be relieved from duty at David's Island, New York, by the commanding officer of that post on the receipt by him of this order, and will then report in person to the commanding officer Fort Hamilton, New York, for duty at that post, reporting by letter to the commanding general Department of the East.

By direction of the Acting Secretary of War, the extension of leave of absence granted Captain C. N. B. Macauley, Assistant Surgeon, in S. O. 55, Department of the Colorado, September 14, 1894, is further extended one month.